

An Analysis of Environmental Education Literature  
for Preschool Children

by

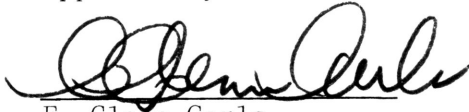
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A handwritten signature in black ink, appearing to read "E. Glenn Carls", written over a horizontal line.

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ABSTRACT

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The purpose of this study is to establish objective criteria for assessing environmental education literature for preschool children. Once the criteria have been established, literature can be applied to the scale and graded producing a useful bibliography for educators.

The preschool literature that was analyzed was selected from booklists and bibliographies cited in education and natural resource journals. The sample comprised 112 titles that were available through the juvenile literature collection of the Sterling C. Evans Library, Texas A&M University. Selections were limited to those materials classified as trade books dealing with themes such as wildlife, domestic animals, ecology, nature study, and science concepts. Titles were classified into genre, or categories, according to the citations in the bibliographies they were derived from.

The criteria established combined traditional literary elements with environmental education concepts. Grade levels were established for each of the criteria, each grade level chosen depending upon on the importance of the criteria.

The results suggest that the criteria and the grading scale are a viable basis for analyzing preschool literature. The data base was



sufficiently large and the criteria grades distinctly different to  
quantifiably analyze the literature.

DEDICATION

For Bruce

I celebrate myself,  
And what I assume you shall assume,  
For every atom belonging to me as good belongs to you.  
-Walt Whitman

## ACKNOWLEDGEMENTS

If, many years ago, a fortune cookie foretold that my life would turn toward a prosperous academic route, I would have assumed I had chosen someone else's cookie. However, growth, wisdom, and boundless experience has led me to yearn for self-improvement and career advancement through education. It is now time to acknowledge those people who have helped me attain these goals culminating through the writing of this thesis.

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## CHAPTER I

### INTRODUCTION

Environmental education has evolved from a sound philosophical and educational foundation which includes nature study, conservation education, outdoor education, and ecology. Although the latter disciplines address specific environmental issues, environmental education encompasses the concepts of a wide range of fields of study. Emphasizing knowledge of the environment and its interrelationships with people, as well as fostering wise use of natural resources, environmental education has been adopted by a much wider audience than its forerunners. This is due to the growing number of ecologically minded citizens in the United States. In other words, society has begun to recognize the importance of how people can successfully live in harmony with the everchanging world around them.

Why is environmental education important? After a relatively long period in history of natural resource exploitation, many Americans came to the realization that the quality of the environment on the Earth was deteriorating. This awareness spurred the beginning of the grass roots environmental movement in the 1960's. Following the National Environmental Policy Act (1969), and Earth Day (1970), the educational system was called upon to help turn the tide of public opinion and increase environmental awareness. Realizing that man, in his continuous effort

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This thesis follows the format and style of the Journal of Leisure Research.

to technologically progress, had a serious affect on the condition of the environment, environmental education became an instrument to increase environmental awareness and foster a positive environmental ethic.

Children learn about nature and their physical environment as they actively explore and experience their surroundings. In the development of environmental awareness, the primary tools of the educator are sensory awareness activities. This concept, "acclimitization", formalized by Steven Van Matre in 1972, stressed the expansion of one's environmental awareness through extended use of the senses. Rather than just looking at the environment and listening to an interpreter present a canned speech, acclimitization allows the participant to become actively involved in the environment; tasting tingly mint leaves, touching the scaly cool skin of a rat snake, and smelling the crisp clean air after a rain shower. By intensifying the senses through first-hand environmental experiences, children can feel as if they are a part of their surroundings, have an increasingly favorable environmental experience, and extend their awareness of the natural world.

According to Bernice Cullinan in Literature and the Child, "Children learn about nature as they explore their everwidening world. Firsthand experiences are primary, of course, but books can deepen and extend children's awareness of the natural world" (Cullinan 1981:141). In preparing children to live in harmony with the environment, literature can draw attention to nature through and engaging text and colorful illustration. Complimenting the perceptions of sensory activities, books may enhance a child's firsthand experiences, introduce new



processes, be instrumental in the construction of a favorable value system toward the environment, and increase their understanding of new concepts.

This thesis will deal with children, specifically those of the preschool age, the environmental education process, and the literature that aids in the promotion of a positive environmental ethic. Specifically, the objective will be to determine what written methods are most effective in communicating environmental values to preschool children.

#### METHODOLOGY

The primary sources of information for this project was derived from various disciplines of study including education, environmental education, psychology, and English literature. Monographs and journals available through the Sterling C. Evans were the main source for this literature review. In selecting a literary experience that is pertinent for the preschool child, background knowledge of the concepts of Piaget's stages of cognitive development were necessary. Material from this area of study were investigated as well. Assistance was sought from the Sterling C. Evans Library Reference Division in the implementation of an AIRS (Automated Information Retrieval System) literature search. This search provided a comprehensive inventory of monographs and journal articles which pertained to the research topic. Assistance was also sought from the Sterling C. Evans Library Interlibrary Loan Department in the procurement of research material not available at the Evans Library.

As stated by Pitcher, Lasher, Feinberg, and Braun, "good literature for children is not different qualitatively from that of adults" (Pitcher, et. al. 1979:57). In the pursuit of qualitative ecological literature for preschool children, criteria were developed for assessing environmental education literature based on the goal of attaining a positive environmental ethic. An evaluation of representative literature suitable for preschool children was conducted using the criteria established.

Finally, through the establishment of criteria for assessing environmental literature for preschool children, a bibliography has been established ranking the literature reviewed. It is hoped that this bibliography and assessment tool will be helpful to educators in the development of a well balanced environmental curricula.

## CHAPTER II

### EVOLUTION OF ENVIRONMENTAL EDUCATION

As mentioned in the introduction, environmental education draws its roots from many fields of study. Preservation, conservation, nature study, and outdoor education are all related forerunners in the quest to instill an environmental ethic among Americans. However firm the foundation these fields of study laid, it was environmental education that combined the philosophies of its forerunners with the inculcation of responsible behavior.

According to Roth, Cantrell, and Bousquet; "While the term 'environmental education' emerged only recently when viewed over time, its related forerunners - nature study education, conservation education, and outdoor education - provided a firm foundation for its development" (Roth, et. al. 1980:85). Further building upon the work of Roth, Cantrell, and Bousquet, conservation education and nature study are concerned with education about the environment drawing information from field guides, state extension agencies, herbariums, and other sources of scientific information. Forerunners of the nature study movement include Louis Agassiz, Wilbur Jackman, and Liberty Hyde Bailey. All emphasized a firsthand understanding of the environment in the outdoors.

Conservation education arose due to genuine social concerns about the condition of the environment. The literature published in response to this movement, such as Silent Spring by Rachel Carson (1962), was spurred by the attempts of concerned citizens to enforce conservation

laws. Outdoor education, or education in the environment, is considered by Roth, Cantrell, and Bousquet to be the pedagogical technique, relying on resources outside of the classroom for educational purposes. The activities involved in the outdoor education curriculum immerse the participant in the environment utilizing the outdoors as a working laboratory. However, only environmental education embraces all disciplines and is considered to be education in, about, and for the environment. "What distinguishes environmental education from its forerunners is the incorporation of activities that deal with environmentally responsible behavior. Just as learning experiences are necessary to develop environmental awareness and knowledge, environmental education programs also include specific activities that deal with a third crucial element, behavior" (Roth, et. al. 1980:88). A person may be knowledgeable and aware of ecological systematics, as well as have strong ecological values concerning environmental issues, however, only behavior will have a direct impact on the environment. Behavior is not confined to actions such as recycling newspapers and turning down the thermostat, but may also involve casting votes on community environmental issues and the election of representatives. According to Yambert there is also increasing evidence that changing behavior will not only reduce adverse environmental impact, but may also modify attitudes and revise a person's knowledge about the environment (Yambert 1980:73).

With the discovery of the New World as a haven against religious oppression and a land of endless economic opportunity, American colonization progressed exponentially freely utilizing resources to meet the

needs of a growing nation. Starting from the east coast, forests were exploited as a source of building material and cleared to provide open space for crops and grazing. This trend continued west as settlers moved on seeking virgin land to homestead. Various species of wildlife were uprooted as villages grew, this growth increasing the demand for natural resources. This "unlimited supply" philosophy, initiated in the minds of the early settlers who viewed the natural resources as free goods, persists with some modifications to this day (Stapp 1974:43). The abundant resources found in America and the Industrial Revolution offered little incentive for pioneering Americans to adopt an environmental ethic. Despite the lack of an environmental foresight, there appear to have been some isolated milestones towards an environmental ethic movement scattered throughout much of history.

The earliest philosophical roots that provided a basis for education concerning the environment can be found in the doctrines of Comenius, Rousseau, and Pestalozzi. John Amos Comenius (1592-1670) advocated sensory learning; seeing, hearing, tasting, and touching objects in order to become more familiar with one's surroundings. Comenius is also accredited with writing the first picture book for children initiating a movement away from the stern Puritan morality system of education. The book, entitled Orbis Sensualium Pictus (Illustrated World of the Senses), associated bold woodcut pictures with a text concentrating on a basic introduction to the natural world. Jean-Jacques Rousseau (1712-1778) was a follower of Comenius advocating sensory learning stressing direct experience. In order to develop a child's natural interests,

Rousseau felt that education should be less formal and literary, depending on natural curiosity and self-instruction. Johann Henrich Pestalozzi (1746-1827) was a follower of Rousseau and likewise advocated instruction through direct experience. However, as well as learning traditional disciplines such as mathematics, reading, and penmanship, Pestalozzi stressed what he considered to be more practical skills; farming, weaving, and housekeeping.

The grass roots environmental movement began to take shape in the early 1960's. This movement aroused Americans to the realization that the condition of the environment was slowly deteriorating due to exploitation and poor natural resource planning. Efforts were made to improve and conserve the environment and educators were called upon to facilitate in instilling knowledge and changing lifestyles.

According to Roth, Cantrell, and Bosquet there were several landmarks in the evolution of a growing awareness of environmental issues in the minds of American people:

- 1962 - Publication of Silent Spring by Rachel Carson
- 1965 - Adlai Stevenson's "Spaceship Earth" address to the United Nations
- 1969 - Passage of the National Environmental Policy Act
- 1970 - Earth Day I (Roth, et. al. 1980:87)

Also, in 1970 Congress passed the monumental Environmental Education Act which provided funds for the development and integration of an environmental curriculum into the classroom. This educational movement was initiated through state acts, the first state being New Jersey.

The United States has become a predominantly urban nation in the past fifty years. As cities begin to move closer and closer together

and man becomes more urbanized and less aware of the natural environment, it will become increasingly important that citizens be educated toward the proper use of the environment. Environmental education, it is hoped, will be a vital key toward long term planning and the road to recovery.

## CHAPTER III

### HISTORY OF CHILDREN'S LITERATURE

Trends. There are trends in politics, trends in fashion, trends in music, trends in the economy. They rule our daily conversations with others and are conspicuous in our media coverage. They are the aesthetic forces of a given time leaving their mark on the world around them (Cullinan 1981:36).

Consequently, the study of children's literature can reveal a myriad of implicit trends throughout history. Trends in printing, trends in values, and trends in the way adults regard children. Books are a vehicle for authors to leave behind pictures of prevailing social codes for posterity by writing about the world in which they live, the world they know, or whatever is currently acceptable or fashionable (Cullinan 1981:36).

The following chapter will be devoted to the history of children's literature, specifically the changes that have taken place as a result of trends in cultural attitudes and values. The historical analysis will be presented in five sections. First, a presentation of the early forerunners of children's literature followed by those milestones significant in the seventeenth, eighteenth, nineteenth, and twentieth centuries respectively.

### FORERUNNERS OF CHILDREN'S LITERATURE

Before the advent of the printing press and before recorded history, stories and events of human interest were transmitted by word of mouth.



The roots of oral tradition began with the dawn of civilization. Within the depths of the tales, many hunters and gatherers discovered a simplistic answer to unexplicable phenomena, tales of heroic deeds, and tribal roots.

In the Middle Ages oral tradition became a greatly romanticized form of entertainment in the great courts of Europe. The tales were often accompanied by the harp or lyre and were told by wandering minstrels, but the stories were those handed down through the generations. The stories were predominantly concerning heroic deeds, as in Beowulf, but tales of a more simplistic theme were also present in the Middle Ages. Called "cottage tales" because of their popularity with the working class, these tales were used as a diversion from a hard days work. One of the more popular cottage tales was Jack the Giant Killer.

Until a relatively short time ago stories specifically for children were unheard of. Children throughout most of history were considered "miniature adults", working in the fields alongside their elders learning the fast and difficult way how to adapt to the adult world. Therefore, it was not culturally necessary to produce stories specifically for children. Instead, the stories that were designed for entertaining the adult were adapted by children as well.

In the 1400's a method was devised to instruct privileged children in the finer skills of religion, alphabet, music, and rhetoric. Hornbooks were not really books, but wooden paddles with printed lesson sheets of parchment pasted on them. Printed by monastery monks, the sheets were covered with transparent horn and bound on the edges with

brass strips. A hole in the handle of the hornbook was designed for cord to enable the child to carry the paddle around his neck or waist. Hornbooks were 2 3/4 inches by 5 inches with lesson sheets that began with the upper and lower case alphabet, numerals, and the Lord's Prayer. It was through the hornbook that children through the Colonial era learned to read.

In the 1450's a significant event took place which would subsequently revolutionize the literary world. Prior to this time the printing of books was primarily achieved through the long and tedious efforts of the monastery monks. These handwritten manuscripts were considered only for the wealthy and were rare in number. With the invention of the movable type press by Johan Gutenberg it became possible to mass-produce books and the cost of purchasing books was significantly reduced for many people.

In 1476 William Caxton opened England's first printing establishment and sold books to the public as well. Those books published by Caxton for children were specifically targeted toward etiquette and other moralizing instructions. In his book on manners Caxton's Book of Curtesye, children were taught to take care of their personal grooming as well as their minds, always mindful that cleanliness was next to Godliness. Other books published by Caxton were designed with the adult in mind, however because of their uniqueness and subject matter they were quickly adapted by children as well. Caxton's book Reynart the Foxe, a satirical animal tale, is still considered a children's classic today.

Although Caxton's books were popular and affordable by many, they still were not accessible to the common people. This problem was overcome with the development of chapbooks sold by peddlers or "chapmen" for pennies. Chapbooks were small pocket books containing condensed versions of fairy tales and legends, most of them badly written with crude woodcut illustrations. Although not of good literary quality, the chapbooks of the 1500's were popular and remained popular into the eighteenth century. To the common people, the action filled, highly imaginative adventure stories provided a welcome outlet in their dreary world. More importantly, according to McCulloch, chapbooks are considered to be the forerunners of many forms of modern children's literature (1979:16).

#### SEVENTEENTH CENTURY

In the 1600's the Puritans and didacticism were the primary influential factors in the literary world. Bringing to the New World old world concepts and philosophies, the Puritans clung to the necessity of providing children with books that directly instructed. Books on morals and catechism taught children to obey their parents, attend Sunday service, avoid the wrath of God, and to live spiritual lives, always preparing for death and the afterlife. This didactic trend was a tradition that was to dominate children's books for hundreds of years and persist as an influence into contemporary times (Arbuthnot 1972:83).

The primary didactic tool utilized by the colonists was the Bible. According to Dewey Chambers in his book Children's Literature In The Curriculum ; "The history of literature reveals that 'The Book' has been

considered through the ages to be a didactic instrument. Its purpose was to teach and instruct, to inculcate values, ethics, and morals, to pave the road to salvation on earth and beyond" (Chambers 1971:137). Children were taught to read in order to study the Bible and popular funeral elegies to support the belief that death could come at any moment.

In 1678 John Bunyan published his adventure tale entitled Pilgrim's Progress. Written for adults, but likewise appealing to children, the story outlines the adventures of Christian and his perilous pilgrimage through the world as he searches for everlasting salvation. Although the book was significant in the eyes of the colonists for the hero's ability to overcome obstacles on the road to eternal salvation, Pilgrim's Progress was widely enjoyed as an adventure tale also.

The first book published specifically for children in the New World was entitled Spiritual Milk for Babies in Either England, Drawn from the Breasts of Both Testaments for Their Souls' Nourishment. Published in 1646 and written by John Cotton, the grandfather of Cotton Mather, Spiritual Milk for Babies was considered mandatory reading for all colonial children. Primarily a catechism emphasizing the sinful nature of all humans, children were expected to memorize the questions and answers (How did God make you?) and remember the underlying philosophy.

The first picture book for children is credited to Johann Amos Comenius a Moravian educational reformer and theologian. In 1657 Comenius wrote Orbis Pictus utilizing black and white woodcuts to enhance his text. In it Comenius included everything that he believed

that a child should know - God's creations - plants, stars, clouds, rain, sun, and geography - rather than the memorization of abstract knowledge (Hurlimann 1980:61). Cominius may have also been one of the earliest forerunners of the environmental education movement bringing children out of the classroom to experience God's creations in their natural surroundings.

### EIGHTEENTH CENTURY

At the turn of the seventeenth century there were several significant occurrences in the literary history of children's books. In 1697, a Frenchman named Charles Perrault published a book entitled Contes de ma Mere L'Oye (Tales of Mother Goose) which would lead to a new era of books written expressly for children. Didacticism took on a new meaning under the guise of nonsense and gaiety of Puss In Boots and Little Red Riding Hood. Whereas morality and codes of conduct were spelled out in Spiritual Milk for Boston Babes and other Puritan literary works, the underlying lesson in the fairy tale was implicit through the use of poetic justice.

Perhaps the most important book for children in the 1800's was the New England Primer. First published in 1683 and continuing publication until the mid eighteenth century, the primer was the first instructional book to depart from traditional religious catechism. Although religious oriented through graphic woodcuts of burnings and other punishments, the primer was published in language easily understood by children. The fact that the New England Primer was less religious oriented than

previous literary works reflected the changing society of a new nation.

In 1693 John Locke published his philosophical views on child education which would have a pronounced effect on the adult view of childhood in the eighteenth century. An English philosopher, Locke envisioned that an infant is born into the world with his mind as a tabula rasa, a blank slate on which ideas were written. Not only did this theory recognize childhood as a stage in cognitive development, it also recognized the special education needs of children. Locke's book Some Thoughts Concerning Education included his complete philosophy on child education which addressed curiosity as an expression of appetite for knowledge, human reason in childhood training not religious precepts, careful use of rewards and punishments, and the provision of books for enjoyment as reading encouragement (Cullinan 1981:43).

Although adventure stories specifically written for children were not available at this time, the eighteenth century produced two high action stories for adults which were equally adapted by children. Robinson Crusoe by Daniel Defoe and Gulliver's Travels by Jonathan Swift were so popular in the eighteenth century that it stimulated a whole group of books written about the same subject, which came to be known as the "Robinsonades". The most popular "Robinsonade" was Johann Wyss's The Swiss Family Robinson (Norton 1983:44).

As the middle class grew, and Locke's emphasis on childhood and education became accepted, books became a more important and readily available commodity. Recognizing the need for books printed specifically for children, John Newbery, an Englishman and admirer of Locke

opened a London publishing company in 1744. Newbery published literary works expressly for pleasure reading often including toys as a prize with the sale of a book. Although many of the books published through Newbery's shop still carried a didactic tone, the moralism was relatively relaxed. The primary concern of Newbery was to provide the children of the eighteenth century with a pleasurable escape. In 1765 Newbery published his most famous literary work by Oliver Goldsmith entitled The Renowned History of Goody Two Shoes, a sociological lesson about a virtuous and clever little girl named Margery Meanwell. Due to his accomplishments in the world of children's literature, the Newbery Medal is awarded each year to the author of the outstanding children's book. =The medal is awarded by the American Library Association.

In 1762 a French philosopher named Jean-Jaques Rousseau developed his theories on child education within the chapters of his book Emile. According to Norton "Locke believed that children should be lead in their search for knowledge, but Rousseau said that they should be accompanied in this search. According to his philosophy, children needed a wise adult who could supply necessary information and gently guide their education" (Norton 1983:46). Rousseau believe that a child should learn through his own experiences and activities, a natural education keeping pace with a child's cognitive development.

### NINETEENTH CENTURY

As Americans adopted a strong patriotism following the Revolutionary War and moved onward to the Industrial Revolution, the literary works published during this century reflected the attitudes and values of a

rising nation. Improvements in printing made possible the publication of large numbers of books of good quality at a reasonable cost to the consumer. Education, formerly for the elite, was now viewed as a natural right for all children. Formal education also became a necessity as immigrants poured into the New World wishing to become enlightened as new Americans. With the further decline of Puritanism, more stories were published expressly for entertainment. Educators came to the realization that morbid morality and graphic depictions of punishment in children's books could be harmful. Although fairy tales were not considered acceptable for children until the latter half of the nineteenth century, stories of humor and fantasy flourished. In 1812 two German scholars, Jakob and Wilhelm Grimm published their book of German folktales, Kinder und Hausmärchen (Household Tales). The tales, such as Hansel and Gretel and Cinderella were not original literary works, but are interpretations of folktales recorded from the memories of servants and peasants. In 1815 a second edition of Grimm tales was published leading to the English translation by Edgar Taylor in 1823.

According to Norton "Most of the published folktales and fairy tales that have been discussed thus far were either written down by Perrault or the Brothers Grimm. The stories had been told in castles and cottages for many generations. Hans Christian Andersen is generally credited as being the first to create an original fairy tale, using his own experiences to stimulate his writing" (1983:47). Although aspiring to be an actor, severe poverty forced Andersen to switch his vocation to writing plays and stories. Fairy tales became his forte, a new book



being written each Christmas to the children of Denmark. In appearance, Andersen was gawky with a prominent nose, the symbolic "Ugly Duckling" overcoming an unhappy life with many obstacles to bring enjoyment to the young and young at heart. In 1846 Andersen's Fairy Tales Told for Children was translated to English by Mary Howitt.

With the translation of the Brothers Grimm and Andersen's fairy tales to English the moral suspicions concerning the values of literary fantasy were lifted. Educators, including Locke, recommended the use of fables and illustration in the cognitive development of the child. Combining learning and reading with pleasure seemed a more favorable learning environment than mere instruction. The first significant work of fantasy for children was Alice's Adventures in Wonderland published in 1865 by Lewis Carroll.

Prior to the 1800's illustrations in children's books were confined to crude woodcuts. In the 1900's three artists emerged producing outstanding illustrations for children's literature. The first, Walter Crane, utilized flat, bright colors with bold outlined figures. His trademark book, The House That Jack Built, published in 1865, marked the beginning of a new era in children's picture books. The second artist, Randolph Caldicott, depicted his characters full of life, always suggesting movement and vitality. Due to his achievements in the world of children's literature, the Caldicott Medal is awarded each year to the illustrator of the most significant American picture book. A galloping John Gilpin, the title character in The History of John Gilpin by Caldicott, is symbolically embossed on each Caldicott Medal. The third

artist, Kate Greenaway, is reknowned for her Victorian style illustrations lavish in delicate, graceful, and dignified figures. As with Caldicott, the Kate Greenaway Medal is awarded each year to the most significant British picture book.

With the growing Nationalism in America, the pioneer spirit stimulated the groundwork for adventure stories. According to Huck, "In America, daily life was full of adventures. Few writers recognized the value of recording some of the incidents and realizing the growing demand for such literature" (Huck 1979:69). The most classic American adventure writer of the this time, who also presented a new realism in literature was Mark Twain. Twain's Adventures of Tom Sawyer (1876) and Adventures of Huckleberry Finn were written recollections of his boisterous boyhood on the Mississippi.

#### TWENTIETH CENTURY

Didacticism, although not as harsh, can still be found in children's literary works of the twentieth century. Educators have developed a more sophisticated understanding of child development and methods of instruction. Codes of conduct and moral instruction have not been forgotten, but instead they are gently interwoven into books containing humor, fantasy, adventure, and realism skillfully extended through illustrations.

At the close of the nineteenth century there arose a new realism in children's literature, portraying relevant social issues. Stories of family life, such as Little Women by Louisa May Alcott (1868), was

perhaps the most popular and well known. In Little Women Alcott presents a warm relationship of five women overcoming problems of poverty and the absence of their father. Many of the realistic stories of this period deal with family roles concerning women caring for the home and men earning a living or going off to war.

Progressing into the twentieth century, realistic fiction for children has become more honest and frank in its subject matter. Books more often than not mirror adult concerns, reflecting war, depression, and social problems of the day. Children's books are even handling controversial themes; sex, divorce, psychological problems, drug addiction, adultery, sibling rivalry, racial issues, and suicide, many works using language spoken in real life.

In the twentieth century a number of technological advances were initiated that were significant to book publishing. Continuing advances in printing made possible the production of larger, durable, more colorfully brilliant, and even washable books for children. New York City became the undisputed publishing capital in the United States, followed by Boston and Philadelphia. In the early 1900's an entrepreneur named Edward Stratemeyer cashed in on the ability to mass produce children's books forming an industry which would become known as "fiction factories". Stratemeyer published numerous series books under a variety of pseudonyms. For example, the Hardy Boys, Nancy Drew, Bobbsey Twins, and Tom Swift series are all products of Stratemeyer's hack writers who turned a three page plot/character outline into a completed story.

Perhaps the most significant impact on children's books in the twentieth century was the growth of the picture book. According to Cullinan "There is no doubt that book illustration has developed into a fine art through the establishment of publishing specifically for children. Illustrations can carry great importance because the art in children's books may be the only art they ever see; certainly it is the first they see and has a lasting impact upon the development of a taste for beauty" (Cullinan 1981:59). The period between 1950 to 1980 is considered the golden age of the picture book. It was during this period that many numbers of skilled artists, including many fine European artists seeking refuge from other countries, became attracted to the picture book field. A roster of international artists include Roger Duvoison (White Snow, Bright Snow), Mitsumasa Anno (Anno's Counting Book), and Ludwig Bemelmans (Madeline). A list of noted American illustrators include Maurice Sendak (Where the Wild Things Are), Barbara Cooney (Ox Cart Man), Robert McCloskey (Make Way for Ducklings), and Marie Hall Ets (Play With Me). The most significant contribution by these illustrators might not only be that they have the ability to capture a vivid childlike imagination on paper, but also utilize pictures to extend the story and become part of it.

Another milestone of the twentieth century was the development of informational books for children. It was recognized that children have a natural curiosity craving to be satisfied. Since the 1940's millions of information books have been published for children on every conceivable subject ranging from everyday experiences to drilling an oil well, anything that might constitute an adventure to a child.

In the 1950's a growing interest in improving the nation's schools and libraries took hold and spurred a great increase in the number of books published in the United States. The flight of Sputnik, representative of Soviet educational superiority, urged Americans to raise the standards of education producing numerous volumes of informational books, mostly dealing with science and math. Currently, the children's book industry comprises a multi million dollar market. Many trade books are increasingly being utilized in the classroom curriculum than textbooks. This is due to the ability of the trade books to provide the reader with up-to-date information and entertain as well as educate. Although computers, music, videos, and television have invaded the education and entertainment media, publishers are still producing books for children in great numbers, because although children learn from hi-tech, many children need reinforcement to the information they have heard or seen. In the words of Lystad "Both the continuities and changes in book fare for the young reflect concern for people, for their uniqueness, and for their well-being. Increasing focus in books on cultural diversity, on expressive needs, and on freedom of choice for all people, encourages children to explore and question, to do and be. In such ways can they actively participate in their own society. To be wished for also in books for children is the persistence of love and magic, of goodness and hope, of fun that is funny. For with these offerings literature confirms old truths and carries out a search for new, thereby enriching the lives of all, old and young alike" (Lystad 1980:261).

## CHAPTER IV

### ENVIRONMENTAL EDUCATION AND PRESCHOOL CHILDREN

The preschool years are generally considered to be designated as ages two through five. The broad and intense range of formative development during this period effects many behavior and attitude patterns which are maintained and utilized throughout an individual's lifetime. These patterns are developed as a child proceeds through the primary years exploring, experiencing, and questioning the environment collecting a myriad of concepts.

Developmentalists call the stages in the intellectual development of a child cognitive development. According to Forman and Sigel; "cognition is an unobservable system of mental rules inferred from behavior suggesting that information has been organized in some manner that may or may not be consciously known" (Forman and Sigel 1979:4). The information that is used to process information changes and becomes more sophisticated as a child advances in age, or more specifically, as he proceeds through successive stages of cognitive development. The stage of cognitive development which will be discussed in relation to this thesis is the preoperational period.

There are many theories of cognitive development. However, the theory of Jean Piaget is considered to be the most widely accepted. The basis of Piaget's theory is biological, stressing the interaction of anatomical and intellectual maturation in the understanding of new concepts. New concepts are received as a child experiences the world in

which he lives acquiring new and added information through all sensory channels. According to Forman and Siegel, Piaget suggests that there are two processes utilized by children to adapt to new information received within their environment. Assimilation is the process of integrating the external environment into one's own internal cognitive structure. Assimilation takes some external object, such as a page of printed words, and modifies it to fit the person's current needs or attitudes. Accomodation is the process of changing one's own cognitive structure to fit the environment - the receiver of the information changes to fit the external object (1979:14). As a child perceives and assimilates new information, a sorting process occurs as concepts are stored and retrieved. As concepts are recognized or if information conflicts with that already known, the child accomodates the information to draw conclusions. In this manner the child comes to an understanding of the world around them.

The preoperational stage, which begins around age 2 and continues through age 7, is characterized by several developments in cognitive growth. Symbolic thought will develop represented through actions in child's play, language, and art work. As more sophisticated language develops amd connections are established between related events, the child is now verbally capable of describing a past event. Concept formation is increased through first-hand experiences aided by an avid curiosity of the environment. Egocentricism is characteristic of a child's thinking, however, not in a selfish sense. A child at this period in life is not capable of thinking in terms of someone elses

feelings, he perceives situations from his own point of view. This egocentricism is also characterized by a marked increase in independence as the child feels the need to break away and explore the world around him. Finally, a child during this active preoperational period who is constantly exploring and constantly questioning, is characterized by a short attention span.

Cognition is a very important factor in the environmental education learning process. As well as being familiar with their teaching material, an environmental educator must be familiar with the learning capabilities of their students. Although a child in the preoperational stage may demand much more attention and require a great deal of patience, the primary years are considered to be a prime time for introducing environmental concepts. According to Robinson and Wolfson, a child who is curious, active, and eager may be much more sensitive to the environment than an adult. "As the learning process advances and children develop cognitive skills, they often lose their sense of wonder and involvement. By the time many are adults, the barriers to receiving information from their senses may be so great that they trust the written or spoken word far more than their own sensory information" (1980: 8). Young children in their quest to prod, feel, smell, taste, squeeze, and quizzically stare at the fascinating world around them have the natural capabilities in their refreshing awe to be natural environmental explorers.

As stated in the introduction to this thesis, the foremost activity utilized by environmental educators with primary age children is sensory



awareness. Normally, when you listen to an instructor you perceive with your mind. However, when one interacts with the environment through the sense of touch, smell, sight, hearing, and even taste, one perceives with the senses as well as with the mind. Not only in this manner does the child build an environmental ethic through concrete experiences, but also gains a general awareness of things, enhances a natural curiosity, and fosters the promotion of a positive self-image. Furthermore, it has been suggested that sensory awareness activities may also positively aid in the cognitive development of a child. As stated by Robinson and Wolfson, the greater the number and variety of experiences using the senses, the more the transition to the next stage of cognitive development can be encouraged. Environmental education can also increase a child's sensitivity, confidence, and values through group interaction (1980:44-45).

Perhaps the most important reason for inculcating environmental values at the preschool age is based on the immediate concern for the future of the natural environment and the populace as a whole. Problems such as pollution, overpopulation, and soil erosion affect everyone. Man is an integral part of the ecological system, but the interdependent system is in a precarious state of unbalance. Many view this unbalance (such as the gasoline shortage) as an infringement on their personal lifestyle, never realizing that as a component in the ecological cycle, each one of us has contributed to the problem and within each one of us is a factor towards a solution (Robinson and Wolfson 1980:XVII). One of the major goals of environmental education is to instill in every

citizen an "environmental literacy". The basic function of this literacy involves the realization that all men are dependent on their environment and the inculcation of responsible action towards saving the environment.

According to Sadker, "Among those Americans who will be most affected by the ramifications of industrial growth and technology are children and young adults. Today's children will live most of their lives in tomorrow's world and are increasingly sensitive to the stake they have in ensuring that the quality of life does not deteriorate over the years" (Sadker 1977:269). If a child is introduced to environmental concepts during the primary years, it may provide a basis for a healthy environmental ethic in the future years. It might be important to note that during the primary years, environmental education does not seek to proselytize the young. Rather, to establish an aesthetic appreciation towards the environment and develop an environmental ethic may be more desirable goals during this period in life.

## CHAPTER V

### INTEGRATING ENVIRONMENTAL EDUCATION CONCEPTS THROUGH CHILDREN'S LITERATURE

#### VALUES OF CHILDREN'S LITERATURE

For many educators the emphasis on literature in the primary years has been to inculcate the basic skills of reading instruction; To select main ideas, to motivate reading, to increase language development. These skills may be valuable in the enrichment of the total curriculum but are often not used creatively enough to increase sensitivity or imagination. It should be recognized that beyond teaching basic reading skills, children's literature can provide a multitude of valuable benefits. It is not meant to be said that other benefits are superior or separate from traditional basic skills, but it may be necessary to arouse the awareness of their existence.

During the primary years, when the learning process is at its most crucial period in terms of influence, books can have a lasting impression on a readers mind. As stated by Huck; "The time has come to recognize what the experience of literature, as literature, can do for the child" (1979:701).

1. **Literature provides enjoyment-** Enjoyment can mean many things to many people. Whether you're pretending that the wind is your playmate as in Gilberto and the Wind or escaping to the land "Where the Wild Things Are", literature can provide a child temporary respite from perplexing problems or serve as a release from boredom.

2. **Literature nourishes the imagination-** Books can open new doors to places a child never knew existed or could not experience. In Balloon Trip by Ron Wegen, readers accompany a boy, a girl, and their father on a hot air balloon trip over the countryside and city. By visiting unseen worlds through a literary experience, the child can extend the limits of their own creativity and imagination.
3. **Literature can develop a child's personality-** Books can enable a child to see how other people react to situations which may be similar or different from their own. If the child recognizes his capabilities it could lead to an improved self-concept and value recognition, as well as influencing their individuality. Many books involve children in choice-making by presenting viable options to a situation. In this manner a child can determine the selection of responsible choices. In Hawk, I'm Your Brother. Byrd Baylor tells the tale of an Indian boy torn between keeping a captive hawk as a pet or leaving it to roam free. The boy sets the hawk free when he realizes that all things must be free to live as they are intended.
4. **Literature can aid in social and moral development-** A child can learn to value the differences among people and divert possible misconceptions about different religions and races. Morally, books can aid in the development of prosocial behavior through the literary presentation of people with specific problems.

5. **Literature can develop attitudes and values-** This component is extremely important to environmental educators. Because there are a multitude of values in society, books can aid in the comparison of one set of values with another.
6. **Literature can aid in concept development-** As stated by Strickland, "Coupled with discussion and firsthand experiences, books provide the teacher with an excellent tool for introducing, extending, or reinforcing a child's understanding of a concept" (1957:53). By presenting concepts through an enjoyable media, books can develop cognitive skills, making it more meaningful.

As suggested by the above six items, literature can be a meaningful experience that goes beyond basic skills. However, the extent to which books can play a significant role in a child's development depends on the adults in their life, ranging from relatives to teachers, who have a great deal of influence on shaping their reading habits. The preschool years are "read-to years" or the time of life when adults are responsible for a child's literary development. If a child is introduced to literature at an early age, or if adults in the home exemplify a healthy interest in reading, chances are that the child will carry this pattern throughout life.

#### INTEGRATING ENVIRONMENTAL EDUCATION CONCEPTS THROUGH CHILDREN'S LITERATURE

Before discussing literature that deals with with environmental education concepts, a definition which includes the scope of potential

topics should be established. The term "environmental education" could be narrowly defined to specific topics which include books that deal with wild animals, air pollution, and wild flowers. However, for the purposes of this thesis, environmental education will be broadly defined to include all books for preschool children that instill an appreciation of the environment and aid in the shaping of a positive environmental ethic.

One question that remains unanswered involves the use of literature to instill environmental concepts. What role can books play in value and attitude formation in the development of beliefs about the environment?

First and foremost, many children may have their first contact with nature through books. This is especially true for inner-city children who live in concrete apartment complexes and define a park as a place where the playground equipment is. Many city children never know the simple pleasure of picking dandelions on a spring day or making angels in a white drift of newly fallen snow. For these children, there is a multitude of literature that can open up an endless new world and help to build a natural curiosity.

For those children who have conscious or unconscious experiences with nature, literature dealing with the environment can strengthen and broaden their real-life experiences (Powers 1974:16). As suggested by Selsam, many times information gathered from direct observation of the environment can be so overwhelming that it can confuse a child. By following up direct experience with literature, the influence will

linger, maintaining their interest and heighten their observations (1973:19).

Finally, as stated by Powers; "Writing can be a powerful catalyst in making the public aware of social issues" (1974:16). Fiction throughout history has had numerous accounts of influence on public opinion. For example, in writing Uncle Tom's Cabin Harriet Beecher Stowe aided in the abolishment of slavery. The primary affect this book had was to rouse people from complacent attitudes and cause changes to occur (1974:16). Likewise, there are many good books for children that can aid in a positive value formation toward the environment. Children can learn to quietly observe wildlife in Play With Me. The change of the seasons can be introduced and appreciated in The Tree and the Seasons and It's Time Now!. And through colorful illustrations children can follow others who observe the environment as in A Wet and Sandy Day.

In recent years there has been a significant increase in the number of children's books published that can play an important role in environmental education. This correlates with the rise of informational books in the past twenty years as outlined in chapter three. Formerly, educators relied on textbooks as primary literary tools in environmental education. However, the textbook has decreased in importance due to its deficiencies in dealing with the topic of environmental education.

To take the place of the textbook, trade books are increasing in popularity to educate children. According to Simon, trade books can allow reading to be done for pleasure, for information, or for both. Trade books by their appearance will naturally hold a greater appeal for

readers. Many have colorful and informative pictures and text that is geared to a reader's cognitive level. For preschool children, the classroom textbook was out of the range of their cognition. This created a whole new field of literary works produced by authors in the guise of picture books, many about nature. Trade books can allow a child to become personally involved with the book characters. In various environmental settings the young reader is provided with a better understanding of and a more active involvement in these social concerns (Sadker 1977:270).

#### REALISM VS. FANTASY

In collecting data for this thesis an unexpected controversy was discovered concerning the use of fantasy and realism in environmental education literature. The primary debators in this controversy are Bernice Cullinan, Richard G. Lillard, and Deborah Shields Tully.

According to Lillard and Tully, the information provided in children's books about nature should be accurate in order to be effective. Most children in the early stages of cognition are not capable of sorting that which is real from that which is fantasy. The biggest concern voiced by both Lillard and Tully concerns the use of anthropomorphism in literature. Anthropomorphism, or giving human characteristics to animals or inanimate objects, is as stated by Lillard "the curse of much children's literature". For example, in Poor Fish by Heide Helene Beisert, a fish is rescued from a polluted stream by two birds.



Not only does the fish speak with the birds, but the birds, in an effort to save the fish weave a net to move the sick fish to another pond. Such portrayals of wildlife, distorts a child's understanding of nature.

Holding the opposing views, Cullinan questions the strict use of reality stating "many realistic books contain excessive measures of grief and despair with no prospect of better things to come" (1974: 416). Cullinan believes that fantasy stories, which can include folk tales, myths, and legends appeal to basic human values and emotions. Fantasy can expand a child's creativity, imagination, as well as provide an escape from a grim world. Children are being exposed to social and personal problems at a younger age during the years when life should be carefree, filled with gaiety.

In response to the arguments by Cullinan, Tully, and Lillard, a position by Myra Pollack Sadker and David Miller Sadker was discovered which provided an acceptable balance between the uses of fantasy and realism. Sadker and Sadker state that "Books of fantasy about nature and nature's creatures often provide children with an imaginative and appealing introduction to our environment" (Sadker and Sadker 1977:274). Although the book Poor Fish is considered fantasy in genre due to its anthropomorphic animals, there are general concepts that can be derived from the story concerning water pollution. Many authors in portraying the environment, emphasize a pleasant story and general concepts rather than creating accurate accounts about the environment.

## CHAPTER VI

### CRITERIA AND RATING SCALE

Prior to rating preschool literature with an environmental theme, criteria or standards should be established by which the material is to be evaluated. In most instances selection of literature is based on an unconscious judgement by an individual. However, according to Marshall, when selecting material for other readers a more unbiased and conscious judgement is necessary (1982:122). Referring to the introduction of this thesis, the purpose of this project is to establish objective criteria for the rating and selection of literature as well as point out specific titles of books appropriate for preschool children. This chapter will be devoted to the establishment of objective criteria for rating environmental education literature for preschool children and the methodology used in the selection of material for the literature analysis.

The initial search for preschool environmental education literature was sought from a multitude of booklists and bibliographies cited in education and natural resource professional journals. The bibliographies available provided an excellent literary database yielding 347 titles for young readers that dealt with an environmental theme, including wildlife, domestic animals, ecology, nature study, and science concepts. Selections were limited to those materials classified as trade books but were not limited in genre. Consequently, informational books were included in the literary analysis as well as realistic fiction, fantasy, poetry, ABC books, picture books and folktales. The

primary literary source for the analysis was the juvenile literature collection of the Sterling C. Evans Library, Texas A&M University. Using the Evans Library ALIS circulation system as a bibliographic search tool, 148 titles of the original 347 titles were found to be housed in the library collection. Of the 148 selections in the Evans Library holdings 112 were available and used at the time of the literary analysis. Although the selections used in the analysis did not exhaust the population of environmental literature for preschool children, it did constitute a sample of the population and provided an adequate data base for the purpose of this project.

Following the selection of material, an analysis was conducted on each of the 112 books by applying the following criteria:

I. Appropriateness For Age Level

At the preschool level books will more often be inappropriate because they are too difficult. At this stage of cognitive development children learn primarily through interaction with the world around them and can not yet deal with generalizations. Concepts that are too complex and abstract will frustrate and confuse a child. On the other hand, books with elementary concepts that are too basic and predictable for the preschool child may lead to disinterest. For the purposes of this analysis it will be stated that books that are too difficult are less desirable at the preschool level than books that are too elementary. One of the problems in using age level appropriateness as a criteria is best stated by Sadker and Sadker; "First, children even of the same age frequently exhibit a

wide range of abilities and experiences. Second, critics and authors sometimes disagree as to the appropriateness of a given idea and concept" (1977:281).

## II. Effectiveness of Illustrations

According to Cianciolo there are no tangible or quantitative bases upon which one can objectively evaluate a piece of art, or in this case, evaluate a book illustration (1976:9). Any one person can have their own opinion about artistic preferences, but there are general criteria to consider when analyzing book illustrations. In almost any type of book, illustrations should complement the text, each giving information in its own way. While a written concept expresses new ideas and vocabulary, an illustration portrays them in an aesthetically pleasing and understandable manner. It is also preferable at this stage of cognitive development for illustrations to be realistic interpretations rather than abstract in style. Because a child believes what is seen, an abstract caricature may confuse or misconstrue a concept.

## III. Environmental Theme

The theme of a book is its main idea or underlying meaning. The theme may be a commentary on society or people and may be implied or stated openly. However it is stated, the theme is critical to a story if the reader is to walk away from the book with a meaningful understanding of what the author was trying to convey.

During the preoperative stage of cognitive development a child may

not yet have the capacity to clearly recognize a theme of a book. As stated by Lukens, "The smaller the child, the less likelihood of a coherent statement. We realize, however, that although a small child cannot define 'home' or 'mother,' the youngest knows what each concept is. For children, knowing and saying need not be - and rarely are - the same" (1982:105).

#### IV. Presence of Stereotyping

Many books that deal with the environment are marred by concept stereotyping. In trying to interpret the merits of nature through literature, authors may sometimes oversimplify an environmental issue. For example, technology, urban centers, and even people are portrayed as selfish abusers of the environment leaving widespread pollution in their wake. In most cases there is an underlying theme that the environment must be saved at any cost. As stated by Sadker; "This is a somewhat unrealistic appraisal, since technology will neither disappear, fade into the sunset, nor rocket out of our lives and into space" (1977:276). At times, many authors will choose the occasion to proselytize to young children and present a didactic interpretation of issues concerning the environment. At the preoperative stage of cognitive development proselytization will either disturb a child or go right over the child's head (Heylman 1973: 143). Therefore, a balanced, unbiased presentation of people living in harmony with the environment should be a more desirable goal for authors of children's literature.

V. Promotion of Environmental Awareness

When writing a book with an environmental theme an author should strive to instill an appreciation for nature. If a preschool child who has been introduced to environmental literature begins to reflect even a remote change in attitude toward the environment, the author has achieved his goal. For example, this change in attitude can be reflected in stopping play to look at a backyard bird, reaching out to catch a cold snowflake, or looking up to watch the clouds drift by. Ultimately, not only should environmental literature arouse an appreciation for nature, it should seek to instill a respect for nature in the guise of setting an example. Picking up litter, not picking bluebonnets, and feeding wild birds are all positive courses of action that might be portrayed in children's literature.

VI. Accuracy of Theme and Concepts

Books with an environmental theme should avoid incorrect concepts that might confuse or distort a child's image of nature. One of the most frequently used incorrect concepts found in children's literature is anthropomorphism. Often authors find the need to attribute human qualities to wild animals, such as naming mates Mr. and Mrs.. Sadker points out that many critics feel that attributing human characteristics to animals make children more identifiable with and respectful of their existence, indirectly leading to an awareness and appreciation of the environment (1977:282).

Following the establishment of criteria, the literary analysis was conducted on the 112 selected titles (See Figure VI-A). Included under each criteria is a grade level ranging from -2 to +3, each grade level chosen depending upon the importance of the criteria. For example, in considering the selection of quality environmental education literature, high grade levels of +3 were assigned to age level appropriateness (criteria I), effectiveness of illustrations (criteria II), and promotion of environmental awareness (criteria VI). Negative or zero grade values were assigned to those criteria levels considered adverse to the overall quality of the book in terms of environmental education. Each of the 112 titles were evaluated according to the criteria and received a cumulative score. The results of the analysis are outlined in the closing chapter.

FIGURE VI-A: CRITERIA AND EVALUATION FORM

I. APPROPRIATENESS FOR AGE LEVEL

- 2 Concepts and ideas inappropriate for age level - too difficult.
- 1 Concepts and ideas inappropriate for age level - too elementary.
- +3 Concepts and ideas appropriate for age level.

II. EFFECTIVENESS OF ILLUSTRATIONS

- 1 Illustrations ineffective.
- +1 Illustrations effective, but do not complement or extend the text.
- +2 Illustrations effective - complement the text.
- +3 Illustrations effective - complement and extend the text.

III. ENVIRONMENTAL THEME

- 0 No theme present.
- +2 Environmental theme present.

IV. PRESENCE OF STEREOTYPING

- 1 Presentation stereotypic.
- +1 Presentation not stereotypic.

V. PROMOTION OF ENVIRONMENTAL AWARENESS

- 1 Does not promote environmental awareness.
- +2 Good subject matter - promotes environmental awareness.
- +3 Excellent subject matter - promotes environmental awareness and presents a positive course of action.

VI. ACCURACY OF THEME AND CONCEPTS

- 2 Theme and concepts highly inaccurate.
- 1 Theme and concepts inaccurate.
- +1 Theme and concepts accurate.
- +2 Theme and concepts highly accurate.



## CHAPTER VII

### RESULTS AND CONCLUSIONS

#### RESULTS

Results of the analyses of the one hundred and twelve books are graphically presented in Tables VII-A and VII-B. Table VII-A represents a list of the literature indexed by the cumulative score they received in the analysis. The citation for each book lists the title of the book, author, illustrator (if different from the author), publisher, and the copyright year. Table VII-B represents an alphabetical list of the analyzed literature by title. Included with each title is a breakdown of the cumulative score by criteria and genre information.

A breakdown of the titles by genre reveals that thirty of the analyzed books are those considered to be informational. Informational books present facts in a variety of formats ranging from picture books to photographs. Some of the characteristics of informational books are use of expository language, logical presentation of information, and accuracy and authenticity of information (Cullinan 1981:29). Eighty-two of the analyzed titles are fictional in genre. Thirty-two of the fictional titles are representative of fantasy, which are a creation of imaginary places and events. Some of the characteristics of fantasy employ characters who possess supernatural qualities and the use of imaginary worlds (Ibid:27). Forty-five of the fictional titles are representative of realistic fiction books that portray truthful actions that are possible, although not necessarily probable. Realistic fiction

books characteristically utilize real world settings, a believable slice of life, and characters who represent the full range of humanity (Ibid: 28). Finally, the five remaining fictional titles are representative of other genre categories; ABC books, poetry, and folk tales.

The cumulative scores in Table VII-A reveal that none of the titles in the literary analysis received the highest score of +14. Although the twelve books that received a score of +13 rated the highest possible grade for criteria I, III, and IV, criteria II, V, and VI proved to be where the rating differences occurred. Eleven of the titles that received a high +2 grade for accuracy of theme and concepts (criteria VI) faltered in the promotion of environmental awareness (criteria V). Only two of the titles, More Than Just Pets and The Fisherman and the Bird, received a high grade of +3 in criteria V. Both books relay a message of respect for wildlife within their theme and present positive courses of action in terms of man living in harmony with the environment. However, the two books mentioned above which may have been the closest to receiving a high score of +14 graded relatively lower in accuracy or illustrations. In The Fisherman and the Bird, Sandra Levitin portrays a humble fisherman with a perplexing problem. A rare set of raptors has built a nest on top of the mast of his sailboat inhibiting his ability to pursue his livelihood as a fisherman. Although the fisherman allows the pair to hatch their young atop his mast and gains the respect of the villagers, the theme is weakened by the slight presence of anthropomorphism. In More Than Just Pets, an informational book, Robert Caputo presents the facts behind why people

study animals. Caputo explains that by learning about animals and how they live, man can better his relationship with them. Although the concept and theme is highly accurate, the photographs used as illustration are not dynamic enough to extend the text.

Of those books classified as informational, twenty-nine rated a total score of +6 and above. Only one informational book, Dinosaur Story rated a relatively low score of +2. Although accurate in its presentation, there was no environmental theme present and the use of taxonomic names lended the story to an older group of readers. If we look at Figure VII-F for accuracy of theme and concepts (criteria VI), it can be seen that twenty-six of the thirty informational books rated higher in accuracy than those of fantasy or realistic fiction. Although informational books rated average in illustrations, a dependence on photographic illustration was noted and in some cases hindered the literary presentation. Depending on the subject matter the use of photographs either greatly extended the text or merely added decoration. For example, two of the informational books, A Kitten Is Born and A Foal Is Born are graphic presentations of animal birth using photographs as illustrations. In this case, the photgraphs extend the text to the realm of being a believable subject matter. This would be important to a reader who may never have the opportunity to view such a rare occasion in person, or correct some misconstrued ideas about animal reproduction. Several of the informational books used within this literary analysis were books from the National Geographic Books For Young Explorers series. Also dependent on photographic illustration, their pictures

were effective, but were viewed as solitary units from the text. In Pandas the photographs used were primarily of zoo pandas playing within their pens. A more effective and realistic presentation would have used photographs of pandas in their natural habitat.

In the realistic fiction category, the titles were equally spread across the plus range of the rating scale, but none rated a total score less than +3. The titles that scored higher on the rating scale, such as Ox-Cart Man (+13) and The Snowy Day (+12) achieved their score through a winning combination of dynamic illustration, and the promotion of accurate environmental themes at a comprehensible level for the preschool age group. It is in this genre that specific names of authors and illustrators begin to become associated with their ability to produce such a winning combination. The author with the most titles associated with environmental themes is Alvin Tresselt. Nine of his books are included within the literary analysis with an average cumulative score of +9.5. Tresselt's books which describe events of nature (Hide and Seek Fog, It Time Now, I Saw the Sea Come In) create a mood of poetic realism. Byrd Baylor, who writes about Native American Indians and their land, has six titles included in the literary analysis with an average cumulative score of +9.5. Two illustrators names are repeated several times throughout the literary analysis. Roger Duvoisin, whose work can be seen in many of Tresselt's books, uses the gouache method of illustration. Gouache, an expressionistic form of illustration, uses the color white to create stark images. In Hide and Seek Fog Duvoisin is so realistic in his portrayal of a damp, dark town covered in fog

that the reader seems to become enveloped along with the characters in the book. Another illustrator, Peter Parnall, is known for his colorful, but abstract portrayals of nature. In Everyone Needs A Rock by Byrd Baylor, Parnall exemplifies the endearing qualities of the desert world. Finally, Marie Hall Ets, who writes and illustrates, has three books within the literary analysis averaging a cumulative score of +11.

The bulk of the titles in the fantasy category scored in the lower level of the rating scale. As expected, many of their themes, although dealing with the environment, were not as comparatively accurate. If we look at Figure VII-C, which is a representative graph for presence of an environmental theme (criteria III), we can see that the grades for the thirty-two fantasy books were split precisely in half.

In terms of stereotyping, five of the titles in the literary analysis were considered to be stereotypic. One of the books, The Little House is one of the classic forerunners of environmental education literature. Although effective in her interpretation of the pressures of urbanization on the environment, Virginia Lee Burton carries her portrayal of the city to an extreme. The city is viewed as an enemy of mankind, representative of everything that is bad, which for all practical purposes, is not necessarily true. In The Man Who Loved Birds a man who has a close relationship with the birds in the park takes action against hunters who enter the park with guns. In an emotional and symbolic gesture, the man saves the birds by painting a bullseye on his chest and confronting the hunters. Not only is the presentation emotional beyond the point of being effective, but it portrays a stereotypic view of hunters as pointless killers.

## CONCLUSIONS

Although the number of trade books published that deal with environmental issues has increased in the past decade the total number of existing books is relatively minimal. Ninety-one of the titles in this literary analysis were found to have an environmental theme. The subject range was broad covering topics from nature study to domestic animals, each topic promoting environmental awareness in its own unique manner. However, of the ninety-one titles that contained an environmental theme, there were only six titles that promoted a positive course of action for environmental improvement. As suggested by Voelker, the existing material which presents alternative solutions to environmental problems is conspicuously weak. Introducing potential solutions through trade books leads to recognition and development of favorable behavior toward environmental quality (1975:63). In other words, presenting environmental facts may be a rewarding attribute in children's literature, but books that exhibit literary merit and provide an understanding of ecological issues may be more desirable in the achievement of an environmental ethic.

Another issue that should be addressed is literary contact. During the preschool years a child is dependent on the adults who are in their direct influence to aid in the formation of favorable literary habits. Much of the responsibility for this introduction will be in the hands of parents and or educators. As environmental education increasingly becomes an issue in the school curriculum, it is with the upmost care that educators select literature that is objective and environmentally ef-

fective. One tool to aid the educator in the selection of quality literature is the booklist. If literature is to be used as an avenue to increase a child's understanding of the environment, great care should be taken in their selection. By choosing books that promote accurate environmental themes at a comprehensible level an educator can better contribute to a child's understanding of the environment. As stated by Sadker and Sadker; "The role is an important one, if today's involved and informed children are to be able to resolve tomorrow's ecological problems" (Sadker and Sadker 1977:283).

Although fantasy as genre graded comparatively lower scores in accuracy of concepts, it is not meant to be said that it should be ruled out as effective environmental literature. Many fantasy books, although inaccurate in their character presentations, make important statements about the environment. The Lorax, a humorous rhyme by Dr. Seuss, rated a cumulative score of +10. Seuss describes the tale of the Onceler, a nonsensical entrepreneur, who wipes out the beautiful traffula trees in a rash of technological progress. Explicit in its presentation of the effects of technology on wildlife, the moral of the story is resounded in the last line of the book; "Unless someone, like you cares a whole awful lot, nothing is going to get better. It's not".

Finally, environmental education programs targetted toward pre-school children should consider integrating literature into their curriculum. In this manner children can incorporate the facts they've learned in the program and link them to comprehensible situations presented in trade books. Science story hours or suggested reading lists

for parental consideration may be two methods educators could utilize for carrying out literary integration. Because ecology is a social issue that will most certainly effect children in the future, trade books may be a solution towards an increased understanding of and respect for the environment.



TABLE VII-A  
BOOK CITATIONS LISTED IN ORDER OF RANK

CUMULATIVE SCORE	TITLE / AUTHOR ILLUSTRATOR / PUBLISHER / YEAR
+13	<u>All About Eggs</u> / Selsam, Millicent E. Addison Wesley / 1980
+13	<u>Amazing Animal Groups</u> / Venino, Suzanne National Geographic Society / 1981
+13	<u>The Dead Tree</u> / Tresselt, Alvin Robinson, Charles / Parents Magazine Press / 1972
+13	<u>The Fisherman and The Bird</u> / Levitin, Sandra Livingston, Francis / Parnassus Press / 1982
+13	<u>A Foal Is Born</u> / Isenbart, Hans-Heinrich Putnam's / 1976
+13	<u>Forest Log</u> / Newton, James R. Brady, Irene / Thomas Y. Crowell / 1980
+13	<u>A Kitten Is Born</u> / Fischer-Nagel, Heiderose and Andreas G.P. Putnam / 1983
+13	<u>More Than Just Pets; Why People Study Animals</u> / Caputo, Robert Coward, McCann, and Geoghegan, Inc. / 1980
+13	<u>Ox-Cart Man</u> / Hall, Donald Cooney, Barbara / Viking Press / 1979
+13	<u>Penguin Year</u> / Bonners, Susan Delacorte Press / 1981
+13	<u>Rain, Rain Rivers</u> / Shulevitz, Uri Farrar, Straus and Giroux / 1969
+13	<u>Some Plants Have Funny Names</u> / Cross, Diane Harding Brett, Jan / Crown Publishers, Inc. / 1983
+12	<u>Chickens Aren't The Only Ones</u> / Heller, Ruth Grosset and Dunlap / 1981
+12	<u>Common Frog</u> / Oxford Scientific Films Putnam's / 1979

TABLE VII-A - CONTINUED

- +12 Hawk, I'm Your Brother / Baylor, Byrd  
Parnall, Peter / Scribner's Sons / 1976
- +12 Just Me / Ets, Marie Hall  
viking Press Inc. / 1965
- +12 The Moon Jumpers / Udry, Janice May  
Sendak, Maurice / Harper and Row / 1959
- +12 Pandas / Grosvenor, Donna K  
National Geographic Society / 1973
- +12 Sea World Alphabet Book / Sea World Inc.  
Sea World Press / 1979
- +12 The Snowy Day / Keats, Ezra Jack  
The Viking Press / 1962
- +12 The Tree and The Seasons / Mari, Iela  
Barron's Educational Series, Inc. / 1979
- +12 Try And Catch Me / Jewell, Nancy  
Weisgard, Leonard / Harper and Row Publishers / 1972
- +12 Two, Four, Six, Eight: A Book About Legs / Kessler, Ethel  
& Leonard / Dodd, Mead / 1980
- +12 A Wet and Sandy Day / Ryder, Joanne  
Carrick, Donald / Harper and Row Publishers / 1977
- +12 The Winter Wedding / Welber, Robert  
Ray, Deborah / Pantheon Books / 1975
- +12 Zoo Babies / Grosvenor, Donna K.  
National Geographic Society / 1978
- +11 The Carrot Seed / Krauss, Ruth  
Johnson, Crockett / Harper and Row / 1945
- +11 Animal Homes / Vevers, Gwynne  
Bramall, Wendy / Bodley Head / 1980
- +11 Bonnie Bess the Weathervane Horse / Tresselt, Alvin  
Parents Magazine Press / 1949
- +11 Dawn / Shulevitz, Uri  
Farrar, Strauss and Giroux / 1974

TABLE VII-A - CONTINUED

- +11 Follow the River / Dabovich, Lydia  
E. P. Dutton / 1980
- +11 Gilberto and the Wind / Ets, Marie Hall  
Viking Press / 1963
- +11 Guess Who My Favorite Person Is / Baylor, Byrd  
Parker, Robert A. / Charles Scribners Sons / 1977
- +11 I Saw the Sea Come In / Tresselt, Alvin  
Duvoisin, Roger / Lothrop, Lee and Shepard Co. / 1954
- +11 It's Time Now / Tresselt, Alvin  
Duvoisin, Roger / Lothrop, Lee and Shepard Co. / 1969
- +11 Jafta / Lewin, Hugh  
Kopper, Lisa / Carolrhoda Books Inc. / 1983
- +11 Seasons / Wildsmith, Brian  
Oxford University Press / 1980
- +11 Stopping By Woods On A Snowing Evening / Frost,  
Robert / Jeffers, Susan / E. P. Dutton / 1978
- +11 A Tree Is Nice / Udry, Janice May  
Harper and Row / 1956
- +11 Wild Mouse / Brady, Irene  
Charles Scribner's Sons / 1976
- +10 Apricot ABC / Miles, Misha  
Parnall, Peter / Little, Brown and Co. / 1969
- +10 Everybody Needs A Rock / Baylor, Byrd  
Parnall, Peter / Scribner's Sons / 1974
- +10 Hide and Seek Fog / Tresselt, Alvin  
Duvoisin, Roger / Lothrop, Lee and Shepard Co. / 1965
- +10 The Important Book / Brown, Margaret Wise  
Weisgard, Leonard / Harper and Row / 1949
- +10 The Lorax / Suess, Dr.  
Random House / 1971
- +10 Play With Me / Ets, Marie Hall  
Viking Press / 1955

TABLE VII-A - CONTINUED

- +10 The Rose In My Garden / Lobel, Anita  
Greenwillow Books / 1984
- +10 We Walk In Sandy Places / Baylor, Byrd  
Charles Scribner's Sons / 1976
- +10 Where Can the Animals Go? / Wegen, Ron  
Greenwillow Books / 1978
- +10 White Snow, Bright Snow / Tresselt, Alvin  
Duvoisin, Roger / Lothrop, Lee and Shepard Co. / 1947
- +9 The Caterpillar's Story / Broger, Achim  
Brandt, Katrin / Scroll Press / 1973
- +9 From Grain To Bread / Mitgutsch, Ali  
Carolrhoda Books Inc. / 1971
- +9 The Little Island / MacDonald, Golden  
Weisgard, Leonard / Doubleday and Company, Inc. / 1946
- +8 Autumn Harvest / Tresselt, Alvin  
Duvoisin / Lothrop, Lee and Shepard Co. / 1951
- +8 The Big Snow / Hader, Berta and Elmer  
Macmillan Co. / 1948
- +8 A Chick Hatches / Cole, Joanna  
Morrow / 1976
- +8 A Horse and A Hound, A Goat and A Gander / Provenson,  
Alice and Martin / Atheneum Press / 1980
- +8 Oak and Company / Mabey, Richard  
Roberts, Clare / Greenwillow Books / 1983
- +8 Snow / Todd, Kathleen  
Addison - Wesley / 1982
- +8 Three Days On A River In A Red Canoe / Williams, Vera B.  
Greenwillow Books / 1981
- +7 Animal Pictures / Stobbs, William  
Bodley Head / 1981
- +7 Animals That Live In Groups / Vevers, Gwynne  
Threadgall, Colin / Bodley Head / 1981

TABLE VII-A - CONTINUED

- +7      Balloon Trip / Wegen, Ron  
Houghton Mifflin Co. / 1981
- +7      Birds At Night / Gans, Roma  
Alike / Thomas Y. Crowell Co. / 1968
- +7      Come Away From the Water, Shirley / Birmingham, John  
Thomas Y. Crowell Co. / 1977
- +7      Creatures With Pockets / Harris, Susan  
Watts / 1980
- +7      Hanging On: How Animals Carry Their Young / Freedman,  
Russell / Holiday House / 1977
- +7      Lions and Tigers / Pluckrose, Henry (Ed.)  
Tenney, Eric and Wilson, Maurice / Gloucester Press / 1979
- +7      The Little House / Burton, Virginia Lee  
Houghton Mifflin Co. / 1942
- +7      Natural History / Goffstein, M. B.  
Farrar, Strauss and Giroux / 1979
- +7      Poor Fish / Beisert, Heide Helene  
Faber and Faber, Inc. / 1982
- +7      The Pumpkin People / Cavagnaro, David and Maggie  
Charles Scribner's Sons / 1979
- +7      Trees / Podendorf, Illa  
Children's Press / 1982
- +7      The Wounded Wolf / George, Jean Craighead  
Schoenherr, John / Harper and Row / 1978
- +6      Air Is All Around You / Branley, Franklyn M.  
Galster, Robert / Thomas Y. Crowell Co. / 1962
- +6      All In The Woodland Early / Yolen, Jane  
Zalben, Jane Breskin / William Collins Pub. / 1979
- +6      Blueberries For Sal / McCloskey, Robert  
Viking Press / 1948
- +6      Cactus In The Desert / Busch, Phyllis  
Barton, Harriet / Thomas Y. Crowell / 1979

TABLE VII-A - CONTINUED

- +6 Desert Voices / Baylor, Byrd  
Parnall, Peter / Charles Scribner's Sons / 1981
- +6 Follow the Wind / Tresselt, Alvin  
Duvoisin, Roger / Lothrop, Lee and Shepard / 1950
- +6 Gobble, Growl, Grunt / Spier, Peter  
Doubleday and Co. / 1971
- +6 If You Are A Hunter of Fossils / Baylor, Byrd  
Parnall, Peter / Charles Scribner's and Sons / 1980
- +6 Johnny Maple-Leaf / Tresselt, Alvin  
Duvoisin, Roger / Lothrop, Lee and Shepard / 1948
- +6 My Cat Pearl / Turner, Dona  
Thomas Y. Crowell / 1980
- +6 Odetta, A Bird In Paris / Fender, Kay  
Dumas, Phillipe / Prentice-Hall / 1978
- +6 Pet Show / Keats, Ezra Jack  
MacMillan Pub. Co. / 1972
- +6 Time of Wonder / McCloskey, Robert  
Viking Press / 1957
- +5 Buzz, Buzz, Buzz / Barton, Byron  
MacMillan Publishing Co. / 1973
- +5 Carlotta and the Scientist / Lenthall, Patricia Riley  
Lollipop Power Inc. / 1973
- +5 The Tomten / Lindgren, Astrid  
Wiberg, Harald / Ccoward, McCann and Geoghegan, Inc. /  
1961
- +4 The Loon's Necklace / Toye, William  
Oxford University Press / 1977
- +4 Make Way For Ducklings / McCloskey, Robert  
Viking Press / 1941
- +4 Poofy Loves Company / Parker, Nancy Winslow  
Dodd, Mead, and Co. / 1980
- +4 Punch's Secret / Sarton, May  
Knotts, Howard / Harper and Row / 1974

TABLE VII-A - CONTINUED

- +4 Toto the Timid Turtle / Goldsmith, Howard  
Chan, Shirley / Human Sciences Press / 1980
- +3 Blue Sea / Kalan, Robert  
Crews, Donald / Greenwillow Books / 1979
- +3 Fair Weather Friends / Gantos, Jack  
Ruebel, Nicole / Houghton Mifflin Co. / 1977
- +3 Hosie's Aviary / Baskin, Tobias and Lucretia  
Baskin, Leonard / Viking Press / 1979
- +3 Hosie's Zoo / Baskin, Tobias and Lisa, and Lucretia  
Baskin, Leonard / Viking Press / 1981
- +3 Howard / Stevenson, James  
Greenwillow Books / 1980
- +3 Moon Bear / Asch, Frank  
Scribner / 1978
- +3 Turtle Tale / Asch, Frank  
Dial Press / 1978
- +3 What Do You Do With A Kangaroo? / Mayer, Mercer  
Four Winds Press / 1973
- +2 A Color of His Own / Lionni, Leo  
Pantheon Books / 1975
- +2 Dinosaur Story / Cole, Joanna  
Morrow / 1974
- +2 Little Peep / Kent, Jack  
Prentice-Hall / 1981
- +2 The Man Who Loved Birds / Kenniston, Ken  
Harvey House / 1962
- 0 Gregory, the Terrible Eater / Sharmat, Mitchell  
Aruego, Jose and Dewey, Ariane / Four Winds Press / 1980
- 1 Green Eyes / Birnbaum, A.  
Golden Press / 1953
- 1 The Happy Day / Krauss, Ruth  
Simon, Marc / Harper and Row / 1949

TABLE VII-A - CONTINUED

- 1 Mr. Grumpy's Outing / Burningham, John  
Holt, Rinehart and Winston / 1970
  
- 1 We Hide You Seek / Aruego, Jose and Dewey, Ariane  
Greenwillow Books / 1979



TABLE VII-B  
ALPHABETICAL TITLE LISTING AND CRITERIA GRADES

TITLE	I	II	III	IV	V	VI	TOTAL	GENRE
Air Is All Around You	-2	+2	+2	+1	+2	+1	+6	INF
All About Eggs	+3	+3	+2	+1	+2	+2	+13	INF
All In the Woodland Early	+3	+2	+2	+1	-1	-1	+6	ABC
Amazing Animal Groups	+3	+3	+2	+1	+2	+2	+13	INF
Animal Homes	+3	+1	+2	+1	+2	+2	+11	INF
Animal Pictures	-1	+1	+2	+1	+2	+2	+7	INF
Animals That Live In Groups	-2	+2	+2	+1	+2	+2	+7	INF
Apricot ABC	+3	+3	+2	+1	+2	-1	+10	ABC
Autumn Harvest	+3	-1	+2	+1	+2	+1	+8	RF
Balloon Trip	+3	+3	0	+1	-1	+1	+7	RF
The Big Snow	+3	+2	+2	+1	+2	-2	+8	FAN
Birds At Night	-2	+2	+2	+1	+2	+2	+7	INF
Blue Sea	-1	+3	0	+1	-1	+1	+3	RF
Blueberries For Sal	+3	+2	+2	+1	-1	-1	+6	RF
Bonnie Bess the Weathervane Horse	+3	+2	+2	+1	+2	+1	+11	RF
Buzz, Buzz, Buzz	+3	+3	0	+1	-1	-1	+5	FAN
Cactus In the Desert	-2	+2	+2	+1	+2	+1	+6	INF
Carlotta and the Scientist	+3	+2	+2	+1	-1	-2	+5	FAN
The Carrot Seed	+3	+2	+2	+1	+2	+1	+11	RF
The Caterpillar's Story	+3	+2	+2	+1	+2	-1	+9	FAN
A Chick Hatches	-2	+3	+2	+1	+2	+2	+8	INF
Chickens Aren't the Only Ones	+3	+2	+2	+1	+2	+2	+12	INF
A Color Of His Own	-1	+2	+2	+1	-1	-1	+2	FAN
Come Away From the Water...	+3	+3	0	+1	-1	+1	+7	FAN
Common Frog	+3	+2	+2	+1	+2	+2	+12	INF
Creatures With Pockets	-2	+2	+2	+1	+2	+2	+7	INF
Dawn	+3	+2	+2	+1	+2	+1	+11	RF
The Dead Tree	+3	+3	+2	+1	+2	+2	+13	RF
Desert Voices	-2	+2	+2	+1	+2	+1	+6	RF
Dinosaur Story	-2	+2	0	+1	-1	+2	+2	INF
Everybody Needs A Rock	+3	+1	+2	+1	+2	+1	+10	RF
Fair Weather Friends	+3	+2	0	+1	-1	-2	+3	FAN
The Fisherman and the Bird	+3	+3	+2	+1	+3	+1	+13	RF
A Foal Is Born	+3	+3	+2	+1	+2	+2	+13	INF
Follow the River	+3	+2	+2	+1	+2	+1	+11	RF
Follow the Wind	+3	-1	+2	+1	+2	-1	+6	RF
Forest Log	+3	+3	+2	+1	+2	+2	+13	INF
From Grain to Bread	+3	+2	+2	+1	-1	+2	+9	INF
Gilberto and the Wind	+3	+2	+2	+1	+2	+1	+11	RF
Gobble, Growl, Grunt	-1	+3	+2	+1	+2	-1	+6	FAN
Gregory, the Terrible Eater	+3	+1	0	-1	-1	-2	0	FAN
Green Eyes	-1	+1	0	+1	-1	-1	-1	FAN
Guess Who My Favorite Person Is	+3	+2	+2	+1	+2	+1	+11	RF

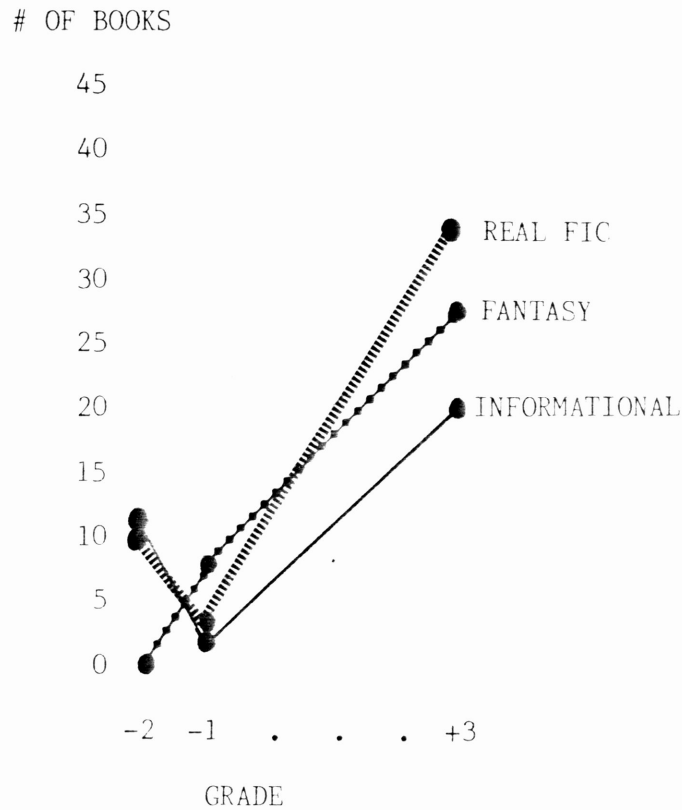
TABLE VII-B - CONTINUED

TITLE	I	II	III	IV	V	VI	TOTAL	GENRE
Hanging On	-2	+2	+2	+1	+2	+2	+7	INF
The Happy Day	-1	-1	+2	+1	-1	-1	-1	FAN
Hawk, I'm Your Brother	+3	+2	+2	+1	+3	+1	+12	RF
Hide and Seek Fog	+3	+1	+2	+1	+2	+1	+10	RF
A Horse and A Hound...	+3	+2	+2	+1	-1	+1	+8	RF
Hosie's Aviary	-2	+1	+2	+1	-1	+1	+3	RF
Hosie's Zoo	-2	+2	+2	+1	-1	+1	+3	RF
Howard	+3	+2	0	+1	-1	-2	+3	FAN
I Saw the Sea Come In	+3	+2	+2	+1	+2	+1	+11	RF
If You Are A Hunter of Fossils	-2	+2	+2	+1	+2	+1	+6	RF
The Important Book	+3	+1	+2	+1	+2	+1	+10	RF
It's Time Now	+3	+2	+2	+1	+2	+1	+11	RF
Jafta	+3	+2	+2	+1	+2	+1	+11	FAN
Johnny Maple-Leaf	+3	-1	+2	+1	+2	-1	+6	FAN
Just Me	+3	+3	+2	+1	+2	+1	+12	RF
A Kitten Is Born	+3	+3	+2	+1	+2	+2	+13	INF
Lions and Tigers	-2	+2	+2	+1	+2	+2	+7	INF
The Little House	+3	+2	+2	-1	+2	-1	+7	FAN
The Little Island	+3	+2	+2	+1	+2	-1	+9	FAN
Little Peep	+3	+1	0	+1	-1	-2	+2	FAN
The Loon's Necklace	+3	+2	0	+1	-1	-1	+4	FOLK
The Lorax	+3	+3	+2	+1	+2	-1	+10	FAN
Make Way For Ducklings	+3	+3	0	+1	-1	-2	+4	FAN
The Man Who Loved Birds	+3	+1	+2	-1	-1	-2	+2	FAN
Moon Bear	+3	+2	0	+1	-1	-2	+3	FAN
The Moon Jumpers	+3	+3	+2	+1	+2	+1	+12	RF
More Than Just Pets	+3	+2	+2	+1	+3	+2	+13	INF
Mr. Grumpy's Outing	-1	+2	0	+1	-1	-2	-1	FAN
My Cat Pearl	-2	+1	+2	+1	+3	+1	+7	RF
Natural History	-2	+1	+2	+1	+3	+1	+6	RF
Oak and Company	-2	+3	+2	+1	+2	+2	+8	INF
Odette, A Bird In Paris	+3	+2	+2	+1	-1	-1	+6	FAN
Ox-Cart Man	+3	+3	+2	+1	+2	+2	+13	RF
Pandas	+3	+2	+2	+1	+2	+2	+12	INF
A Penguin Year	+3	+3	+2	+1	+2	+2	+13	INF
Pet Show	+3	+2	0	+1	-1	+1	+6	RF
Play With Me	+3	+2	+2	+1	+3	-1	+10	RF
Poofy Loves Company	+3	+2	0	+1	-1	-1	+4	FAN
Poor Fish	+3	+2	+2	-1	+2	-1	+7	FAN
The Pumpkin People	-2	+2	+2	+1	+2	+2	+7	RF
Punch's Secret	+3	+2	0	+1	-1	-1	+4	FAN
Rain, Rain Rivers	+3	+3	+2	+1	+2	+2	+13	RF
The Rose In My Garden	+3	+3	+2	+1	+2	-1	+10	FAN
Sea World Alphabet Book	+3	+2	+2	+1	+2	+2	+12	ABC
Seasons	+3	+1	+2	+1	+2	+2	+11	INF

TABLE VII-B - CONTINUED

TITLE	I	II	III	IV	V	VI	TOTAL	GENRE
Snow	-1	+3	+2	+1	+2	+1	+8	RF
The Snowy Day	+3	+3	+2	+1	+2	+1	+12	RF
Some Plants Have Funny Names	+3	+3	+2	+1	+2	+2	+13	INF
Stopping By Woods...	+3	+2	+2	+1	+2	+1	+11	POET
Three Days On A River...	-2	+3	+2	+1	+2	+2	+8	RF
Time of Wonder	-2	+2	+2	+1	+2	+1	+6	RF
The Tomten	+3	+1	+2	+1	-1	-1	+5	FAN
Toto the Timid Turtle	+3	+3	0	+1	-1	-2	+4	FAN
The Tree and the Seasons	+3	+3	+2	+1	+2	+1	+12	INF
A Tree Is Nice	+3	+2	+2	+1	+2	+1	+11	RF
Trees	-2	+2	+2	+1	+2	+2	+7	INF
Try and Catch Me	+3	+3	+2	+1	+2	+1	+12	RF
Turtle Tale	+3	+1	0	+1	-1	-1	+3	FAN
Two, Four, Six, Eight	+3	+2	+2	+1	+2	+2	+12	INF
We Hide, You Seek	-1	+1	0	+1	-1	-1	-1	FAN
We Walk In Sandy Places	+3	+1	+2	+1	+2	+1	+10	RF
A Wet and Sandy Day	+3	+3	+2	+1	+2	+1	+12	RF
Where Can the Animals Go?	+3	+3	+2	-1	+2	+1	+10	INF
White Snow, Bright Snow	+3	+1	+2	+1	+2	+1	+10	RF
Wild Mouse	+3	+2	+2	+1	+2	+1	+11	RF
The Winter Wedding	+3	+3	+2	+1	+2	+1	+12	RF
The Wounded Wolf	-2	+2	+2	+1	+2	+2	+7	RF
Zoo Babies	+3	+2	+2	+1	+2	+2	+12	INF

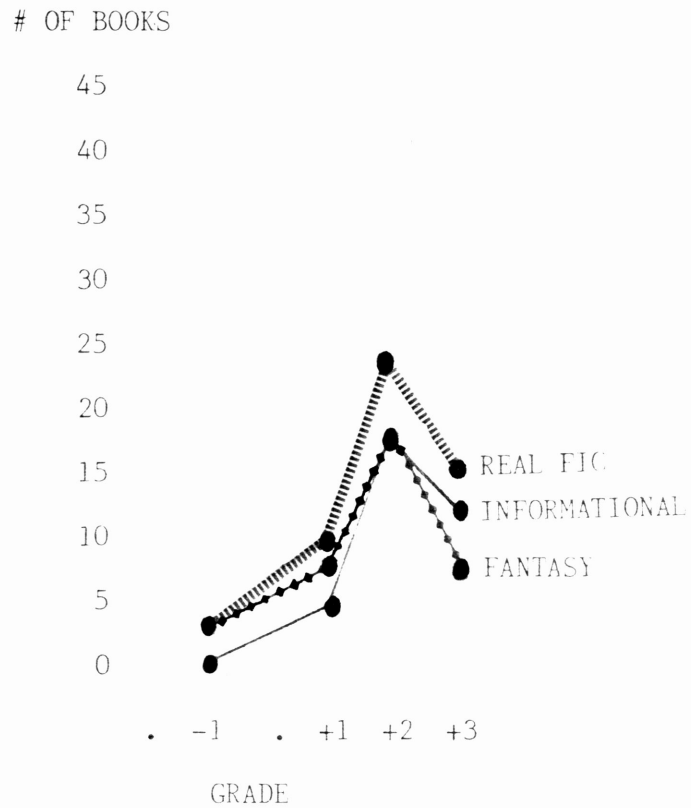
FIGURE VII-A



CRITERIA I:  
APPROPRIATENESS FOR AGE LEVEL

- 2 Concepts and ideas inappropriate for age level-too difficult.
- 1 Concepts and ideas inappropriate for age level-too elementary.
- +3 Concepts and ideas appropriate for age level.

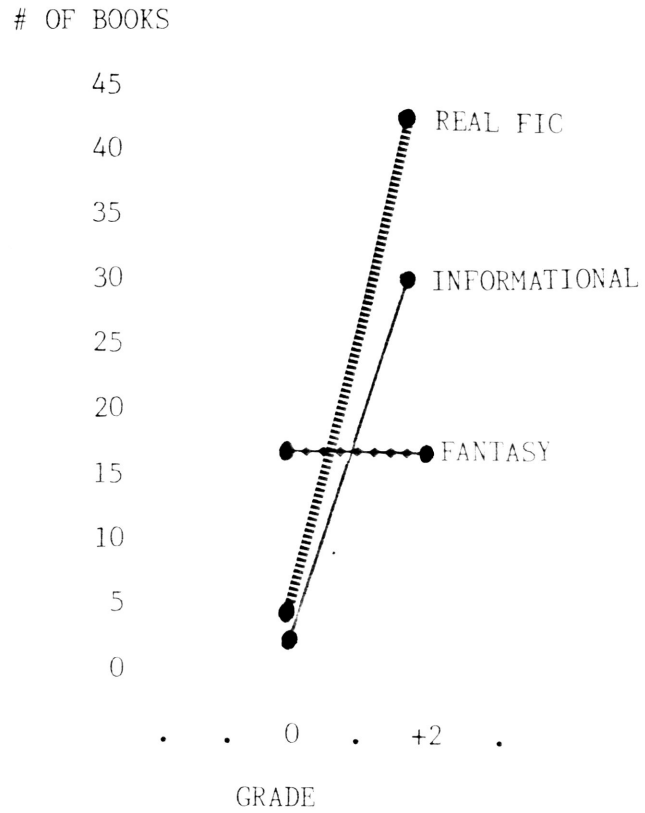
FIGURE VII-B



CRITERIA II:  
EFFECTIVENESS OF ILLUSTRATIONS

- 1 Illustrations ineffective.
- +1 Illustrations effective, but do not complement or extend the text.
- +2 Illustrations effective - complement the text.
- +3 Illustrations effective - complement and extend the text.

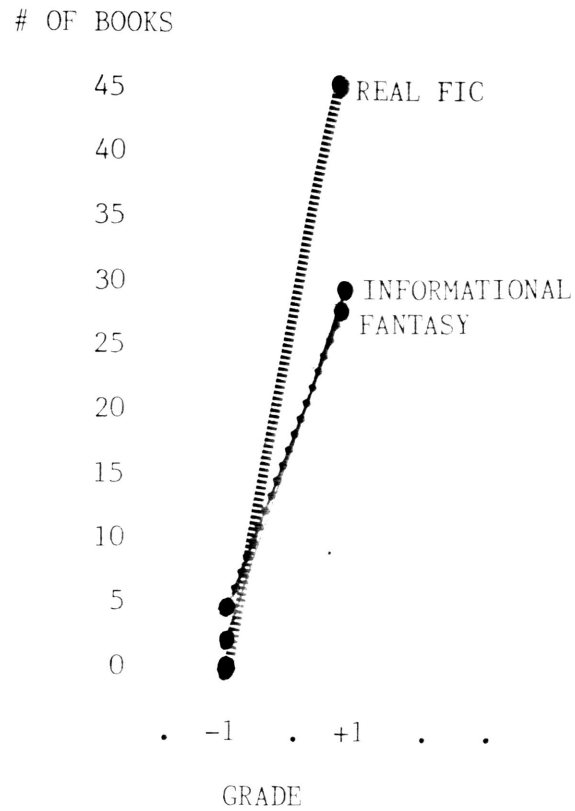
FIGURE VII-C



CRITERIA III:  
ENVIRONMENTAL THEME

- 0 No theme present.
- +2 Environmental theme present.

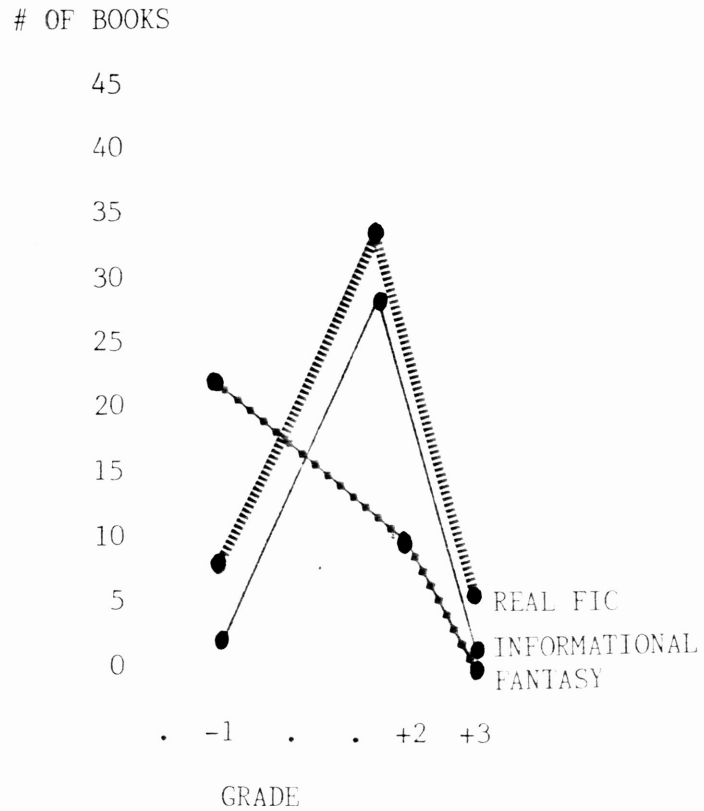
FIGURE VII-D



CRITERIA IV:  
PRESENCE OF STEREOTYPING

- 1 Presentation stereotypic.
- +1 Presentation not stereotypic.

FIGURE VII-E

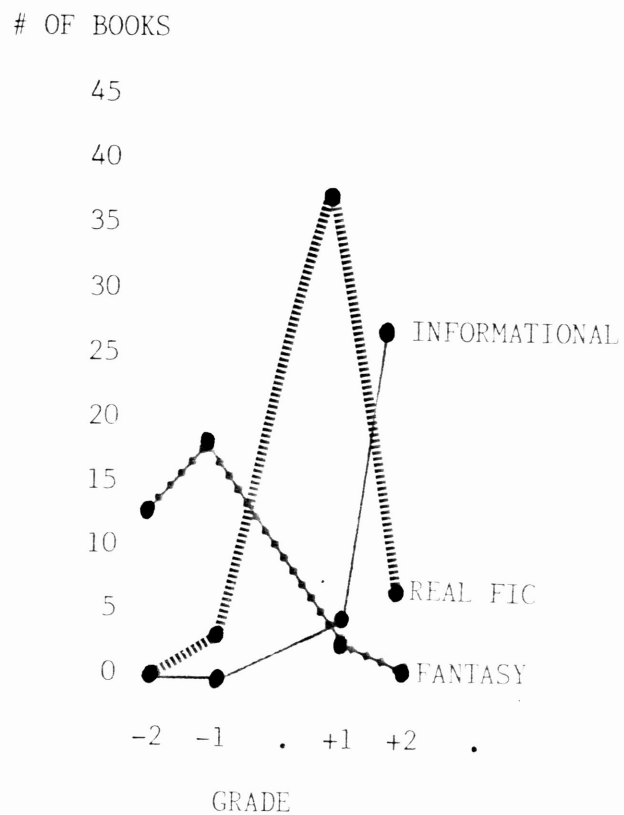


CRITERIA V:  
PROMOTION OF ENVIRONMENTAL AWARENESS

- 1 Does not promote environmental awareness.
- +2 Good subject matter - promotes environmental awareness.
- +3 Excellent subject matter - promotes environmental awareness and presents a positive course of action.



FIGURE VII-F



CRITERIA VI:  
ACCURACY OF THEME AND CONCEPTS

- 2 Theme and concepts highly inaccurate.
- 1 Theme and concepts inaccurate.
- +1 Theme and concepts accurate.
- +2 Theme and concepts highly accurate.

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