

AN ABSTRACT OF THE THESIS OF

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The importance of role-taking skills in the social development of children has been well documented. Further, it has been shown that children's development of role-taking skills is dependent upon the quantity and quality of social interactions which require the consideration of alternative perspectives. Given recent evidence of the importance of child/pet interactions, the present study is an attempt to determine the impact of structured interactions with a puppy on the development of role-taking skills.

A sample of 47 preschool children from a university-based child development laboratory was randomly assigned for five and one-half weeks to one of three experimental conditions: a) exposure to a structured curriculum about animals and pet care, including "hands-on" experience with a puppy, b) exposure to a structured curriculum about animals and pet care, without exposure to a puppy, and c) a control group who were assigned to activities unrelated to the curriculum

about animals and pet care. Three separate instruments assessing affective, cognitive and perceptual role-taking abilities were administered to the children as a pretest, posttest, and post/posttest.

The results indicated that the group which incorporated the use of a puppy into its curriculum significantly improved and maintained their higher scores on the affective role-taking task. Their improvement was significantly greater than that of the children in the curriculum group not using a puppy, and also greater than the control group's scores. This finding demonstrates that exposure to pets through a structured curriculum can increase empathy in children, and that this effect will last over time. Also found was that children who owned pets at home had no different role-taking abilities at the start of the study than those who did not own animals. These data show that training children about animals and exposing them to a pet for actual experience are valuable tools to develop and encourage empathic awareness.

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Exposure of Preschool Children to Companion Animals:
Impact on Role-Taking Skills

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TABLE OF CONTENTS

INTRODUCTION	1
PURPOSE	6
REVIEW OF LITERATURE	8
DEFINITION OF TERMS	24
METHODS	25
RESULTS	36
DISCUSSION	42
SUMMARY AND CONCLUSIONS	50
REFERENCES	55
APPENDICES	
Appendix I. People and Animals	64a
Appendix II. Game Plans for Children	91
Appendix III. Facilitator's Role for Role- taking Tasks	124
Appendix IV. Letters to Parents	137

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Internal Consistency Reliability by Task and Time of Testing	31
2. Means by Condition and Role-Taking Task at Each Testing Period	41

EXPOSURE OF PRESCHOOL CHILDREN TO COMPANION ANIMALS:
IMPACT ON ROLE-TAKING SKILLS

INTRODUCTION

Over the past three decades, considerable research has been conducted on the development of role-taking skills in young children. Taking the role of another involves cognitive inference about the other's feelings, expectations, capabilities, attributes, and possible responses in given situations (Selman, 1971a). According to Piaget (1926, 1962), preschool aged children are mainly egocentric, which means that they lack the ability to distinguish between their own point of view and another's (Flavell, 1977). Consequently, they have difficulty understanding and responding to the perspective of another person. As children develop cognitively, egocentrism declines and role-taking ability improves (Deutsch, 1974; Rubin, 1976). While developmentally children generally improve their role-taking skills with age, there is significant variation in the role-taking skills of children at any given age. This is particularly true within the preschool years.

Recent studies have suggested that variations in role-taking skills in preschool children can account for many differences in children's social competence. Declines in egocentrism and associated increases in role-taking ability have been positively correlated with a rise in altruistic behaviors (Mussen & Eisenberg-Berg, 1977), and higher levels of cooperative and sociodramatic play (Rubin, Watson & Jambor, 1978). Further, preschoolers demonstrating role-taking skills have better peer acceptance and popularity scores than do

children without these skills (Gottman, Gonso & Rasmussen, 1975). Role taking has also been found to be a prerequisite for movement to higher levels of moral reasoning (Selman, 1971a). In summary, the ability to interpret and respond to the role of another person is positively related to social well-being during the preschool years.

Selman's work (1971b) on preschoolers has categorized role-taking ability into a four level sequence. At the lowest level, children have an immature sense of the other and fail to distinguish between the thoughts and perceptions of others and themselves. In the second level, the child realizes that others are separate, but does not yet understand that they may think in similar ways. From this level, the children overassimilate to where they understand that others have similar interests and thoughts, but are still egocentric in that they assume that the other's perspective is the same as their own. At the highest level, children have a mature awareness that others have perspectives based on their own reasoning which may or may not be similar to their own. Other researchers have come to similar conclusions, suggesting that the rudiments of role-taking skills develop during the preschool years (Flavell, 1977; Hoffman, 1976). Interestingly, only the most recent investigations have begun to study the etiology of variation in preschool children's role-taking abilities. One recent investigation has found that preschoolers may increase their role-taking abilities through social-cognitive interactions. Castle and Richards (1979) found that interpersonal contact is a prerequisite for movement away from egocentrism; and those who interacted more frequently with others showed higher role-taking skills than those who interacted less

often. These differences were obtained when children interacted with peers or with adults.

Research on children's early social experiences suggest that social interaction is related to role-taking ability. Kohlberg (1976) theorizes that the more children participate in a social group, the more opportunities are afforded to develop role-taking skills. Peer interaction has been found (Rubin, 1976) to lead to a decline in egocentrism, measured by role-taking tasks (Borke, 1971); while both higher peer and adult interactions can also lead to higher role-taking abilities (Castle & Richards, 1979). While research has mostly supported Piaget's and Kohlberg's claims that peer interaction is associated with the decline in egocentrism, some researchers have found that it may not be as specific as peer interaction, but may include any social experiences with interaction and participation. Hollos and Cowan (1973) and West (1974), in two similar studies, found no significant differences in role-taking skills between children who interacted more with peers than with adults. They concluded that early social experience is needed for role-taking skills, and differences in abilities may result from extent and variety of contact with others.

Social interaction and reciprocity may take on many forms. Research on children's peer interactions suggests that the definition of peer as "someone of the same chronological age" is not an accurate reflection of the child's world (Shaffer, 1979). A pet may serve many of the functions that human interaction serves, unfortunately, there is a paucity of scientific literature available on how exposure to animals affects child development. The research available does

show that animals have a positive effect on humans who interact with them. Children who are pet owners are more popular among peers than non-pet owners (Guttman, 1984). It is suggested that children may view their pets as extensions of themselves, and thus take their perspective by treating them the way themselves want to be treated (Robin & ten Benschel, 1985). Further, interactions with pets may also foster a sense of responsibility in children (Beck & Katcher, 1983). If pets can indeed assist in the development of role-taking skills, then these same skills may be used in developing peer relations; and thus explain why pet owners are more popular.

Other studies on pets and people have shown that people who express affection for their dogs also manifest higher affection for other people (Brown, Shaw & Kirkland, 1972), have higher interpersonal trust and self-esteem (Lee, 1976), and show more empathy towards others (Hyde, Kurdek & Larson, 1983), than do non-dog owners. Higher empathy levels were also found in adolescents who had quality animal exposure during childhood, over adolescents who had quantity of animal exposure (Malcarne, 1986).

The literature suggests that role-taking ability is a crucial aspect of satisfactory social development, and that social interaction is one means to enhance the development of role-taking skills. Although often not empirical, the literature also suggests that a pet may serve in some ways the same functions of a peer to a child, and in other ways as a social facilitator (Bath, Krook, Sandquist & Stantze, 1976; Corson, O'Leary Corson, & Gwynne, 1975; Levinson, 1972; Messent, 1985). Interacting with a pet requires children to make reciprocal compromises, for they no longer are in

sole control of circumstances; this conflict or discrepancy, in turn, may reduce egocentric thought. Through situations which foster interdependency and confidence in interaction, pets allow children to learn give-and-take, and develop responsibility towards others (Salomon, 1981). The proposed research focuses on exposure to pets as a means of enhancing the role-taking abilities of preschool children. It is predicted that children who interact with a puppy will develop greater role-taking skills than children who do not have that interaction.

PURPOSE

The importance of role-taking skills in the social development of children has been well documented (Gottman, Gonso & Rasmussen, 1975). Further, it has been suggested that children's development of role-taking skills is partially dependent upon the quantity and quality of interactions which require consideration of alternative perspectives. Peer interactions and their relation to role-taking ability have dominated this line of research. Given recent evidence of the importance of child/pet interactions, it may be possible that structured interactions with pets will have a positive impact on the development of role-taking skills.

The purpose of this study is to investigate possible changes in role-taking skills of preschool children as the result of a structured experience with pets. This research will test the hypothesis that preschool children who are exposed to puppies through a structured curriculum will demonstrate significant improvements in role-taking ability. Furthermore, increases in role-taking of the group exposed to the structured interactions with pets will exceed any changes in control groups.

Research Questions

1. Does exposure to pets through a structured curriculum about pets and pet care increase role-taking skills in children?
2. Are there immediate or longer term effects related to exposure to pets and a structured curriculum?

3. Does pet exposure with a structured curriculum about animals develop greater role-taking skills than the structured curriculum alone?
4. Is prior exposure to pets in a family setting related to role-taking skills in children?

REVIEW OF LITERATURE

Childhood egocentrism is an integral concept in the Piagetian perspective of child development. Egocentrism is the inability to take another perspective other than one's own. Children who are set in their own points of view do not recognize that their thoughts, feelings and perceptions are separate or different from others. Piaget (1959) believed that this social egocentrism declines around twelve years of age as the child develops the ability to decenter, which is, to regard more than one relevant aspect of an object or a situation simultaneously (Urberg & Docherty, 1974).

The behaviors that constitute non-egocentric thought and decentration are not well defined. The ability to take the perspective of the other can be assessed through role-taking tasks, which are usually maintained as the standard for measuring social egocentrism (Urberg & Docherty, 1974), and the development of social and cognitive decentering (Selman, 1971b).

Researchers of role-taking skills disagree as to the type of role taking that best demonstrates nonegocentric thought. The main categories, although often overlapping in concepts, can be divided into three: 1) cognitive or conceptual role taking, the ability to perceive another's knowledge and understand another's intentions; 2) perceptual-spatial role taking, the ability to identify a visual perspective different from one's own; and 3) affective role taking, the ability to identify feelings and emotions of another.

Although Piaget mentioned that a child was primarily egocentric until at least seven years of age (Piaget, 1967), present research is indicating that children as young as three to five years of age

demonstrate rudimentary role-taking skills. Early cognitive role taking was found to exist in preschoolers in a study using 80 children aged two to six (Mossler, Marvin & Greenberg, 1976). These children were shown videotaped stories and asked to infer the knowledge of another's restricted viewpoint. The results showed that 4-, 5- and 6-year-olds were able to conceptually role-take. Other data reported by Flavell (1977) looked at non-egocentric spatial perspectivism and found that 2-3 year olds can solve very elemental social-cognitive problems, such as what another sees on the other side of a card. Finally, Hoffman (1976) theorizes that the basis of empathy is present soon after birth, and evidence indicates that children as young as three years old can identify how others feel. Borke (1971) found evidence in a study of 200 children aged 3-8 years that preschoolers can appropriately choose how another is feeling in certain situations which entail obvious affects. Data indicate that preschool aged children have the rudimentary skills to make socio-centered responses when the tasks are simple and within the cognitive capacities and social experience of the pre-operational child (Rubin & Pebler, 1980).

Egocentrism declines with age (Flavell, 1977; Kurdek & Rodgon, 1975; Miller, Kessel & Flavell, 1970; Rothenberg, 1970; Rubin, 1973; Looft, 1972) and with age comes the opportunity to experience more interpersonal relationships, through which children learn about thoughts, perceptions and feelings of others. Research seems to demonstrate that aside from age, certain behaviors have a negative correlation with the decline in egocentrism. Piaget (1959, p. 258) maintained that while "the superiority of the adult prevents

discussion and cooperation, the playfellow provides the opportunity for such social conduct as will determine the true socialization of the intelligence." Others have agreed with Piaget that peer interaction facilitates the learning of social skills (Black, 1979; Ross, 1983). Rubin (1976) found that preschool children who played at more advanced levels (Parten, 1932), which facilitates greater interaction, were also better able to take the perspective of the other (Borke, 1971). Castle and Richards (1979) using 43 preschool boys and girls found that greater rates of interacting with either peers or adults by preschoolers was associated with significantly higher scores on role-taking tasks (Borke, 1971; Flavell, Botkin, Fry, Wright & Jarvis, 1968; Irwin & Ambron, 1973; and Mossler, Greenberg & Marvin, 1975). The results of these data support Piaget's view that interacting with others induces challenges to a child's cognitive equilibrium, and thus is an impetus for the decline in egocentrism.

Although these results are significant, the causative factor(s) for enhancing role-taking skills remains equivocal, and thus some data should be presented in which there were no significant correlations between peer interaction and role-taking skills. Strayer and Mashal (1983) did not find role taking to be significantly affected by preschool peer experience. They looked at 20 4-year-old preschoolers in a quasi-experimental study which assessed communication and role-taking skills. They found the two significantly related, but the role-taking skills remained unrelated to peer experience, which was assessed by a parental questionnaire indicating number of peer contacts per week, and by peer popularity

ratings within the preschool. Strayer and Mashal speculated that communication, which is affected by peer experience, may serve to mediate in the development of role-taking skills. Taking a slightly different perspective, West (1974) looked at three populations of children, from a kibbutz, a moshav and from city dwellings, which vary on amounts of peer exposure. She found no differences in role-taking skills between the groups, concluding that a basic amount of early social experience is the requisite for developing role-taking abilities. This concept is supported by Castle and Richards' (1979) data which showed that the type of social interaction--peer, adult or other--is not the factor that moves children away from egocentric thinking, but rather social interaction in itself.

Only a few studies have been done to date which employed an assessment and training intervention for children who were deficit in role-taking skills. Chandler (1973) and Chandler, Greenspan & Barenbaum (1974) had small groups work with each other in an effort to help them see themselves from another's perspective. Lieshout, Leckie and Smits-van Sonsbeek (1973) used a training program of role play. All of the results showed the training programs to help improve role-taking scores significantly. Although these subjects were older than preschoolers and only in the Lieshout et al. (1973) population were they not taken from a delinquent and emotionally disturbed population, these studies do demonstrate the ability of intervention to change role-taking skills. One study did look at 101 preschool children. Laubengayer (1965) assessed the spatial perspective taking abilities of the children and then submitted them to either training sessions or control sessions. The 28 trained

subjects showed significant improvement from pre- to posttest over the control groups, further demonstrating the ability to lower egocentrism through role-taking skills during the preschool years.

Operational Definitions of Egocentrism; Measures of Role-Taking

Ford (1979) reviewed various measures of role taking--cognitive, perceptual and affective--which this commentary will outline. Cognitive role taking is the ability to take another's mental perspective (Selman, 1971a) by perceiving another's knowledge and understanding another's intentions. This is the broadest of the three categories (cognitive, perceptual, and affective), and conceptually and in definition often overlaps with the other two (Ford, 1979). There are six sets of measures of cognitive role-taking tasks which assess different areas of cognitive abilities. Validity and reliability will be stated when reported.

Referential communication. Studies of this kind assess the subject's ability to communicate or attend to a description of an object which another has in front of him so that it may be appropriately selected. While this does measure the ability to infer another's intention, it is also an assessment of one's verbal facility. Glucksberg, Krauss & Higgins (1975) devised a widely used task that requires a speaker to describe nonspecific designs to a listener who must choose the appropriate "referent." A listener and a speaker sit on opposite sides of a table separated by an opaque screen. The speaker's job is to provide a description of hard-to-label pictures on a card, so the listener can discriminate among the same pictures on his side to successfully label the referent from the nonreferents. A comparable, yet less difficult task (Baldwin &

Garvey, 1970) was administered by Piche, Michlin, Rubin and Johnson (1975) which requires subjects to describe a Dr. Seuss-like animal to a listener who must choose from a set of similar pictures. Similarly, the Crystal Climbers Task (Piche, et al., 1975) requires subjects to describe a model of blocks so that a listener can construct a duplicate model. The model is made of white, plastic shapes of various sizes. The listener must recreate the model through verbal instruction from a set of unassembled blocks. Other studies have used the same concept utilizing various levels of complexity, i.e., description of airplanes (Shatz & Gelman, 1973), toys (Maratsos, 1973), or whether the listener could see the speaker (Hoy, 1975), and/or the provision of feedback (Glucksberg, et al., 1975).

Social and private speech. Through observation of children in naturalistic settings one can demonstrate the level of egocentrism and assess their cognitive role-taking skills. This type of measure apparently is an indirect method of measuring the ability to infer another's perspective and adjust one's behavior to the situation (Ford, 1979). The situations assessed may be social, in which communication must be adjusted for locality of the listener (Garvey & Hogan, 1973; Shatz & Gelman, 1973), or they may be of a private nature which assesses nonsocial communication as to level of egocentrism (Kohlberg, Yaeger & Hjertholm, 1968). Kohlberg and his colleagues (1968) developed a quantitative scale which listed certain types of private speech as more egocentric than others. For example, repetition of words was considered more egocentric than speech that was used to control one's own activities. They found their test-

retest reliability to be low, $r=.43$, however, their inter-rater reliability was higher, $r=.85-.90$.

Feffer's role-taking task. Feffer (1959) developed a measure to assess the ability to decenter in an interpersonal situation. Subjects must tell a story from the perspectives of three different characters (Feffer, 1959, 1970; Feffer & Gourevitch, 1960; Feffer & Suchotliff, 1966). This task demonstrates the ability to infer others' thinking processes within given situations. Feffer (1959) reports an inter-rater reliability of $r=.89$, and Feffer and Gourevitch (1960) report low internal consistency.

Privileged information. A common strategy which can vary in complexity is the privileged information measures. In these measures, stories are told with pictures in which the subjects are given information known only to them. The subject must then retell the story as seen by another who has not seen all the pictures or heard the whole story. Flavell's (1968) "apple-dog" story is an example. Chandler (1973; Chandler, Helm & Smith, 1974) has developed similar stories. Zahn-Waxler, Radke-Yarrow and Brady-Smith (1977) have also used tasks which assess conceptual role taking (1979), and report a high internal consistency.

Recursive thought. Another measure used to determine cognitive egocentrism is through assessment of children's understanding of "the recursive nature of thought" (Ford, 1979, p. 1172; Miller, Kessel & Flavell, 1970). Miller, et. al. (1970) showed subjects drawings of children whose words or thoughts were represented in the drawing by smooth or scalloped clouds above their heads. The subjects were asked to decipher what the children were thinking. The conclusions

of this study were that role-taking abilities would be demonstrated through the description of another's thoughts.

Infer game strategies. The final area of cognitive role-taking measures are those that ask subjects to infer the desire or game strategy of another. Flavell et al. (1968) developed a popular measure, the nickel-dime game, in which subjects are asked to cover the coins in such a way as to lessen the chances of an opponent guessing where the dime is. An explanation of the subjects rationale demonstrates the ability to analyze the thought processes of another. Selman's (1971a, 1971b) hide-the-penny game utilizes the same concepts. Mossler, Greenberg and Marvin (1973) developed tasks which require the subject to predict another's desire or preference in certain situations where an appropriate response denotes an ability to cognitively role take. Lastly, Zahn-Waxler et al. (1977) developed similar questions to predict another's desire.

Perceptual-spatial or visual role taking is measured by assessing children's predictions of another's visual percepts. The most commonly used measure of decentration is the three-mountain task of Piaget and Inhelder (1956) in which a child identifies how another may see the array of mountains from various locations. The literature shows many variations on this concept. Flavell et al. (1968) have developed similar tasks for various age groups, from requiring subjects to show the experimenter a picture upside-down to reconstructing a display of objects as seen by another.

Perceptual role taking has been assessed using many other types of tasks. Liben (1978) asked children how one would see a piece of white cardboard if wearing colored sunglasses. Coie, Costanzo and

Farnill (1973) used a doll and toy houses which required subjects to identify what the doll "saw". Fishbein, Lewis and Keiffer (1972) asked children to identify a display or photograph of toys as to how another might have perceived it from a different locality; Shantz and Watson (1971) had subjects predict the location of objects on a mock landscape after they or the landscape had changed position. Other studies have followed or adapted studies from these same concepts (e.g., Kurdek & Rodgon, 1975; Zahn-Waxler et. al., 1977).

Affective role taking can be defined as the awareness of another's feelings. Most research of this type relies on Borke's (1971) measure of affective egocentrism, the Interpersonal Perception Test. This instrument is made of various stories to which a child is asked how the person in that story might feel. The child may choose the response from a set of facial expressions demonstrating either fear, happiness, anger or sadness. Similarly, Feshback and Roe (1968) provided both facial expressions and situational cues in their Affective Situations Test. Rothenberg's task (1970) is more complex in its requirement of judging the feelings of others in unfamiliar circumstances. Affective role taking tasks are criticized by some who feel that they do not measure levels of egocentrism or lack of it, but more of empathy, which is the ability to share certain feelings rather than predict the feelings of others (Ford, 1979).

Methodological and interpretational considerations in role-taking tasks are many. Many tasks are limited by their complexity, and errors made may be nonegocentric errors, as those responses which are neither the child's own perspective nor the correct one. The literature shows dissenting conclusions on what certain tasks are

actually measuring. Borke (1971), for example, found evidence of affective role-taking skills in preschool children, while Chandler and Greenspan (1972) found that errors in social decentration continue through middle childhood. Chandler and Greenspan (1972) concluded that Borke's findings did not measure egocentrism, but rather measured only the child's ability to make stereotyped social judgments (Urberg & Docherty, 1976). In reply, Borke (1972) stated that empathy is indeed the ability to take the perspective of the other, and her tasks measure the most basic role-taking skills. Her response continues and applies to many other types of role-taking tasks, in that the assessment of a child's ability to take the role of the other is easily confounded with the cognitive complexity and communication skills necessary to measure this construct. The ability to adequately measure the actual content of another's perspective may be limited by a child's experience and cognitive capabilities (Urberg & Docherty, 1976).

Stages in the Decline of Egocentrism

Several researchers have attempted to define the sequence in development of role-taking skills. They often correspond to each other, and in general conclude that although role-taking skills are most apparent in middle childhood, rudimentary evidence does appear in early childhood and possibly infancy (Castle, 1976).

Flavell (1971) states that by two to three years of age a child appears to understand the visual perspective of others, while cognitive role taking is culminated during middle childhood and adolescence. According to Flavell, four components are involved in the ability to take the perceptual role of another: 1) existence

occurs when a child realizes that others have a perspective; 2) need occurs when a child becomes aware that for social interaction, perspective-taking is necessary; 3) inference refers to the child's ability to determine the other's perspective; and 4) application occurs when the child uses this knowledge and applies it to adapt his behaviors.

In this perceptual domain, Flavell (1971) developed a four-level model which involves the ability to predict and represent the visual perceptions of another: level 0 is the sensorimotor level in which the child does not yet have the cognitive capacity for symbolic representation of any visual act or experience. The child can anticipate objects seen by others, he cannot predict or anticipate the visual experiences of another; level 1 is demonstrated when the child is able to present the fact that others do see the object; level 2 adds the ability to understand that others may see the object from other perspectives; and level 3 is the ability to quantitatively assess and represent another's retinal image.

Through three experiments of visual role taking, Fishbein, Lewis and Keiffer (1972) concluded that children have three stages of inference which, depending on the situation, may precede, follow or coexist with the child's cognitive level. The first stage is called "egocentrism," where the children believe that others experience--think, perceive and feel--things as they do. They are unaware of any viewpoint other than their own. The second stage is a transitional stage called "nonegocentrism." Here the children may realize that others have a perspective separate from their own, but they are unaware of how to ascertain it. The third stage is that of "empathy"

where the children are both aware that others have separate perspectives and knowledgeable of how to put themselves in another's situation.

The models proposed by both Feffer (1970) and Urberg and Docherty (1976) are similar in hierarchical structure to Selman's levels of the development of role-taking skills, thus Selman's (1971b) sequence of social thought for four to six year olds will be listed here:

Level A: Children may have a sense of the other, but fail to distinguish between the thoughts and perceptions of the other and themselves.

Level B: Children's sense of self is distinguished from the other, but they fail to see any commonality of thoughts between themselves and others.

Level C: Children attribute their own ideas to the other because they hypothetically put themselves in the other's position, but see others as having interests similar to their own.

Level D: Children are aware that others have perspectives based on their own reasoning which may or may not be similar to their own.

Although these sequences of development in role-taking skills were designed to cover differing aspects of role taking, they all show a similarity in the underlying developmental content that progresses with age. All schemes include stages varying from the child's inability to see a viewpoint other than his own to the ability to understand and take the perspective of the other.

In summary, the literature has been reviewed looking at the variable of role-taking abilities in preschoolers. It has been shown that children develop through a sequence of lesser to greater abilities with rudimentary perspective-taking skills visible during the preschool years. Children who have greater social contact with others tend to score higher on role-taking tasks than those with less contact. Interventions in assisting development of these skills can be successful. There is a dearth of literature on the effects of animals on children's development, but what is available, both empirical and suggested, will be presented.

Children and Pets

Veevers (1985) states that when pets and people interact, their functions may be categorized into three areas:

1. The protective function involves the extent to which pets may serve as a symbolic extension of the self.
2. The sociability function involves the role of pets in facilitating human-to-human interaction.
3. The surrogate function involves the extent to which interaction with pets may supplement human-to-human interaction, or serve as a substitute for it.

The development of the social self, social facilitation and interaction with pets as a supplement or substitute to interaction with people may well function as the same factor that facilitates role-taking skills from social interaction with humans. Lewis and Rosenblum (1975) suggest that the definition of "peer" is too restrictive; and that being a peer is a transient thing, relating to an activity or interaction. Younger or older children, parents,

adults and even pets may become "peers" if in some way an interaction is facilitated (Shaffer, 1979).

The research available does show that animals have a positive effect on humans who interact with them. Guttman (1984) asked 455 children aged 11 to 16 with whom they would prefer to spend time or to whom they would turn to with a problem. He compared pet and non-pet owners on sociometric parameters. He found that pet owners received a higher evaluation by their peers, especially concerning questions regarding the need for a partner or when assistance is required. Guttman concluded that animal interaction seems to be an excellent coach to the learning of social behaviors. Pet owners were also found to have higher empathy and trust scores than non-pet owners. Hyde, Kurdek and Larson (1983) administered a self-concept scale, an empathy scale, and an interpersonal trust scale to sixty college students--half of whom were pet owners. They found that pet owners scored significantly higher on both interpersonal trust and empathy; self-esteem scores were not significantly different.

In another study of empathy, Malcarne (1986) used high school seniors who were classified by level of quality and quantity of childhood experience with pets. They were then given empathy and moral reasoning scales. The pertinent findings showed that quality of childhood exposure to pets was associated with greater empathy towards humans; there was no correlation with moral development. Quantity of experience was not associated with either of the two attributes.

The literature shows that affection for others also varies with love for animals. Brown, Shaw and Kirkland (1972) gave ratings of

low, moderate or high dog affection to college students, who were later given a personality inventory. Significant differences were found between those who did and did not like dogs. Little affection for dogs was associated with little affection manifested for others. This study was followed up by Lee (1976) who selected at random 50 dog owners and 100 non-dog owners who were administered a measure of interpersonal relationships. Lee also classified owners as interactive or passive pet owners. The interactive pet owners had a significantly higher affiliation for others than did passive pet owners and non-pet owners. These studies demonstrate that pets may enhance human relationships through the quality of interaction.

Fogel (1983) reports studies that pets elicit protective or nurturing behaviors in children as young as three years old (Robin & ten Bensel, 1985). Beck and Katcher (1983) state that the interaction between children and pets often resembles a parent-child interaction with the animal representing the child. This interaction between children and pets may be fostering a sense of responsibility in children. Children may also view their pets as extensions of themselves, and thus take their perspective by treating them the way they themselves want to be treated (Robin & ten Bensel, 1985).

In conclusion, the reviewed literature suggests that role-taking ability is a crucial aspect of satisfactory social development and that social experience is one means to enhance the development of role-taking skills. The literature also suggests that a pet may serve as a facilitator for social learning for a child. Interacting with a pet requires children to make reciprocal compromises, for they no longer are in sole control of circumstances; this conflict or

discrepancy, in turn, may reduce egocentric thought. Through situations which foster interdependency and confidence in interaction, pets allow children to learn give-and-take, and develop responsibility towards others (Salomon, 1981). Pets can also act as a social facilitator among people (Bath, Krook, Sandquist & Stantze, 1976; Corson, O'Leary Corson, Gwynne & Arnold, 1975; Levinson, 1972; Messent, 1985) which in itself may increase role-taking abilities (Kohlberg, 1976). The proposed research focuses on exposure to pets as a means of enhancing the role-taking abilities of preschool children.

DEFINITION OF TERMS

For the purpose of this study the following terms are defined as (adapted from Castle, 1976):

Affective Role-Taking - the degree to which one is able to predict another's feelings and emotional states which are different from one's own as measured by the affective role-taking tasks of this study.

Cognitive Role-Taking - the degree to which one is able to predict another's operative events such as thoughts, desires, preferences, attitudes, ideas, etc., which are different from one's own as measured by the role-taking tasks of this study.

Egocentrism - the inability to assume the role of another.

Perceptual Role-Taking - the degree to which one is able to predict another's visual perspective which is different from one's own as measured by the perceptual role-taking tasks of this study.

Pet Exposure - a reciprocal encounter between a puppy and a child.

Role-Taking Ability - the degree to which the child is able to infer a different cognitive, perceptual or affective perspective involving another's thoughts, capabilities, attributes, visual viewpoints, feelings, etc.

Structured Curriculum With Pet - a small group activity utilizing a curriculum about animal care, and incorporating interaction with a puppy.

Structured Curriculum Without Pet - a small group activity utilizing a curriculum about animal care.

METHODS

Subjects

The subjects were 48 preschool children attending a university-based preschool program. (Due to attrition the sample at the post/posttesting period was 47.) The preschool sample ranged in age from 38 months to 68 months at the beginning of the study, with a mean age of 49.9 months. The children came from various ethnic backgrounds, but the sample was predominantly Caucasian.

Design

The study employed a 3(experimental condition) X 3(time of testing) design using prior exposure to pets as a covariate and employing multiple dependent variables. To assess children's prior exposure to pets, questionnaires were given out to the parents asking if they had pets in the home; if so, how many, what kind, for how long, and on a scale from one to five--one being "very much" and five being "hardly at all"--how much the child interacts or is involved with the care of the pet(s) (see Appendix IV). Only children who owned interactive pets and who were moderately involved with those pets were considered as owners, and assessed for covariate significance. Children were randomly assigned to one of three experimental conditions: a) exposure to a structured curriculum about pets and pet care, and exposure to a puppy; b) exposure to a structured curriculum about pets and pet care without exposure to a puppy; c) a control group of children who were assigned to small group activities unrelated to the pet curriculum. Pet owners were evenly distributed in each group. Three separate instruments

assessing role-taking skills were administered to the subjects. Each of these instruments was administered as a pretest, posttest, and post/posttest.

Instruments

Three instruments were used to assess separate aspects of role-taking abilities. All three instruments have been used previously with preschool children. The instruments assess a) perceptual role-taking (Flavell, Botkin, Fry, Wright, & Jarvis, 1968), b) cognitive role-taking (Mossler, Greenberg & Marvin, 1975; Mossler, Greenberg, & Marvin, 1976), and c) affective role-taking (Borke, 1971). (See Appendix III for copies of instruments.)

Perceptual Role-Taking Tasks

Perceptual role-taking assesses the child's ability to predict the visual orientation of the tester.

Task One (Adapted from Flavell, et. al., 1968; Task IIIA Revised). Each child was shown a black and white figure of a man on cardboard. The child was asked to show the picture to the experimenter so it could be seen upside down. This item was scored as correct or incorrect.

Task Two (Adapted from Flavell, et. al., 1968; Task IIIC Revised). Each child was shown two identical cubes outfitted with four different pictures on each face of the cube. The experimenter's cube was rotated, and the child was asked to turn the other block so that the child could see on his or her block the same picture that the experimenter was seeing on his or her block. The child was then asked what he or she saw on his or her side of the block; and what he/she thought the experimenter saw on his/her side. This item was

scored correct or incorrect for placement; and correct or incorrect for experimenter's view.

Task Three (Adapted from Flavell, et. al., 1968; Task IIID). Each child was shown a card with two different pictures on it, one on each side. The child was shown each picture and then asked, with the card held between the child and the experimenter, what picture the experimenter was looking at. This item was scored as correct or incorrect.

Task Four (Adapted from Flavell, et. al., 1968; Task IIIE). A card with three identical pictures on each side was shown to each child. After the children identified the pictures on both sides, a folded piece of construction paper was placed over the top leaving only the bottom pictures showing. After identifying the bottom picture, the child was asked to identify which pictures the experimenter saw when the paper covered only one picture on his/her side of the card. This was scored correct or incorrect. Then the paper was moved to cover two pictures on the experimenter's side, and again the child was asked what the experimenter saw. This, too, was scored correct or incorrect. A total perceptual role-taking score ranging from zero to six was possible by summing the correct scores from each task.

Cognitive Role-Taking Tasks

The cognitive role-taking assessment involved the child's ability to take into account another person's preferences, and predict another person's response to a situation.

Task One (Adapted from Greenberg, Marvin and Mossler, 1977). This task was introduced by asking the child to help the experimenter

think of something to do after going home. The child was presented with a personal like or dislike and then given two possible choices of activities in which the other person might engage. One choice would coincide with the child's preference of activity, while the other would be contrary to that preference. There were a total of five items, scored appropriate or inappropriate.

Task Two (Adapted from Mossler, Greenberg and Marvin, 1975). The children were told they were going to play a pretend game in which they chose what another person would want as a gift if they were that person. The five choices of gifts were delineated as those preferred by a child or those preferred by a mother. The five choices were scored as appropriate or inappropriate, summing the possible scores on the cognitive tasks to 10.

Affective Role-Taking Tasks

The affective role-taking assessment required the child to explain the feelings of another person who was portrayed in various situations, and to predict the behavioral response of that person.

Task One (Adapted from Borke, 1971). Each child was shown a set of four faces depicting the emotional responses of happy, sad, afraid, or angry. After identifying the emotions, the children were told of another child in situations which would illicit an emotion. After each situation was described, the child was asked to tell or point to the face which demonstrated how the child in the situation might have felt. There were seven situations, scored as appropriate or inappropriate.

Task Two (Adapted from Borke, 1971). Each child was shown three faces depicting an emotional response of happy, sad, or angry. Eight

stories were presented in which the subjects were described as acting in certain ways towards another child. The child was then told to point to the specific emotion which described how the other child felt in that situation. Items were scored as appropriate or inappropriate, with a total possible score on affective role taking ranging 0 to 15.

Reliability and Validity

Castle (1975) reported, when using this combination of cognitive, affective and perceptual role-taking instruments, a moderately high test-retest reliability across pre- to posttests, $r = .89, .86, .82$, respectively, using the Spearman-Brown correlation. Castle also reported significant intercorrelations between the three role-taking tasks used in this study, of $r = .65$ to $.81$ ($p < .01$) on the pretests.

Internal consistency reliability on each subtask was assessed on the pretest using Chronbach's alpha (see Table 1). The first five items of the cognitive role-taking task had an $\alpha = .54$; and the second five items showed an $\alpha = .45$. The first subset of seven items on the affective role-taking task had an $\alpha = .70$; and $\alpha = .34$ was found on the second set of eight items. When the six items on the perceptual task were assessed, they showed an α of $.50$ on the pretest. (See Table 1 for Chronbach's Alpha scores at each testing period.)

Although these scores are somewhat low, it must be taken into consideration that the number of items with a subset are few, making it difficult for accurate analysis. Also, the internal consistency reliability tests for preschoolers are usually slightly lower than

that of adult tests. The reliability on these tasks, then, is adequate for testing this construct of perspective-taking.

The validity of role-taking instruments is controversial, in that role-taking tests at this young age may not actually be testing the children's ability to understand what another person is thinking, feeling or seeing, but only answering what they themselves might think, feel or see in a certain situation. Children may be projecting their own perspective on another rather than actually perceiving the other's specific viewpoint. For the purpose of this study, the assessment of these basic abilities, whether projected or not, is adequate; thus, these instruments are found to have content validity.

Procedure

Children were individually administered the three role-taking instruments by one of five trained graduate research assistants. Following the initial pretesting, the children were randomly assigned to one of the three experimental conditions blocking on previous exposure to pets.

The experimental phase of the study was administered in the preschool environment daily, for fifteen minutes, over a five and one-half week (22 contact days) period. Trained student teachers administered the curriculum assisted by a graduate student. Within each of the three experimental conditions (curriculum with pet, curriculum without pet, and control), the children assigned to the condition were divided into small groups which were administered the appropriate exposure condition (this yielded three groups of five to seven children per condition). These groupings remain constant

Table 1. Internal Consistency Reliability by Task and Time of Testing

Task/Time of Testing	Cognitive subtasks		Affective subtasks		Perceptual
	1	2	1	2	
	pretest	.53700	.45080	.70284	
posttest	.51504	.65676	.54154	.38126	.61994
post/posttest	.38338	.65584	.68999	.15934	.52902

Note: Internal consistency reliability was calculated using Chronbach's alpha.

throughout the implementation period. Each of the following conditions were implemented during the five and one-half week period.

Training

Five research assistants who had become familiar with the preschoolers were given the facilitator's role for the role-taking tasks and asked to become familiar with it. They, then, practiced administering the task on another research assistant and after appropriate proctoring they gave the tests to one child while being monitored by the principle investigator. They were then given a list of children who they were to test.

Orientation of the preschool teachers took place with a short manuscript which informed them of the research, the goals and the procedures to be followed. Each teacher had the activities and the dates on which he or she would lead a certain group. An outline of which teacher led which treatment group was posted in each preschool room. Training took place before each preschool session by the principle investigator until each teacher had a chance to become acquainted with the teacher's role, and with the curricula. All needed supplies were standardized and provided for the teachers. The groups were randomly monitored throughout the five and one-half weeks of actual implementation.

Pet curriculum with puppy. The children assigned to the pet curriculum were exposed to a pet and pet care through a structured curriculum which included extensive interactions with a puppy. The curriculum used was an adaptation of People and Animals: A Humane Education Curriculum Guide, developed by the National Association for the Advancement of Humane Education, and edited by Kathleen Savesky

and Vanessa Malcarne. This curriculum guide was used in combination with the Humane Education Teacher's Packet for preschool and kindergarten, developed by Dorothy Sammut-Tovar for the Peninsula Humane Society (see Appendix I). The purpose of this instructional guide was to assist children in their awareness of animals and their environments, and the appropriate care of animals. This curricula consisted of activities ranging from understanding the care, handling and needs of animals, to understanding the similarities and differences between animals and children.

One experimental condition utilized this curriculum while integrating interactions with a small puppy. Each small group randomly selected to participate under this condition was exposed to one puppy, along with the curriculum. For five and one-half weeks the children, during the small group period, took care of, played with and learned to understand the needs of that puppy. They watched it grow and develop, while guided by the curriculum and proper supervision.

Two puppies were needed to expose to small groups simultaneously. One of the puppies was used twice, for morning and afternoon preschool sessions. The two puppies used in the study were kept for the duration of the study in the home of the principle investigator. The puppies were eight and nine weeks old at the beginning of the experimental period. "Ginger," a female, was a springer spaniel and Australian shepherd mix; and "Farley," a male, was a border collie mix. Upon completion of the study, the pets were adopted into a student teacher's home and into the home of the author of this study.

Pet curriculum without puppy. This condition followed a very similar curricular format to the previous condition with the exception of exposure to a live animal. The structured curriculum included activities designed to make the children understand pets and their care but did not include interactions with a puppy. The daily lessons of this group were designed with the same objectives of those delivered in the above condition excluding exposure to the puppy.

Control. The small groups in the control condition were administered fifteen minutes of daily activities not related to the pet curriculum, for the duration of the five and one-half week implementation phase. The activities were adapted from Jeanne Hanson's Game Plans for Children. (See Appendix II for activities.)

In the week following the termination of the experimental phase, all of the children were administered the role-taking instruments in individual posttesting sessions similar to the pretesting. Three weeks following this posttesting, post/posttesting was conducted. Following the post/posttesting, the children who served in the pet curriculum without pets and the control group were given the opportunity for pet exposure in the classroom. Upon completion of the data collection, all subjects and their parents were informed of the results.

Analysis

Separate 3(experimental condition) x 3(time of testing) univariate analyses of covariance (ANCOVAs) with previous experience with pets as the covariate were used to analyze the data collected at the posttest period and again at the post/posttest period. A subsequent post hoc test was used to further analyze significant main

effects. Paired-t tests were used to analyze change scores from pre- to posttest, and from post- to post/posttest on each variable.

RESULTS

Research Question #1

Does exposure to pets through a structured curriculum about pets and pet care increase role-taking skills in children?

This research question was answered using separate one-way analyses of covariance (ANCOVAs) with the pretest and pet ownership used as covariates. One-way ANCOVAs were used to compare the average performance between the three groups for each of the three dependent variables (cognitive role-taking, affective role-taking, and perceptual role-taking). Paired t-tests were used to compare pre- to post-intervention test scores of each group separately. The independent variable was the treatment condition at each testing period. See Table 2 for the means of each group on each role-taking task at particular testing times.

For the cognitive role-taking task, there was no significant difference between the groups $F(2,47)=.759$, n.s. on the ANCOVA, adjusting for significant differences in pretest scores $F(1,47)=6.097$, $p<.05$. The t-test showed a significant change from pre- to posttest in the control group $t(1,15)=-3.82$, $p<.01$, but the other two groups did not change significantly.

For the affective role-taking task, the paired t-test indicated a significant pre- to posttest change in the curriculum with the puppy group $t(1,14)=-2.69$, $p<.05$ which neither the curriculum without the puppy, nor the control group demonstrated. This significance was also manifested by the ANCOVA, which assessed that there was a difference between the groups $F(2,47)=3.596$, $p<.05$, along with significant pretest scores $F(1,47)=24.753$, $p<.001$. A Newman-Keuls'

Multiple-Range test performed to identify where the significance lay, testified that the curriculum with the puppy was significantly different from both the curriculum without the puppy group and the control group.

The perceptual role-taking task showed no significant difference in the means of the groups $F(1,47)=.043$, n.s. on the ANCOVA, adjusting for significant pre-test scores $F(1,47)=17,87$, $p<.001$. The pre- to posttest change was significant for both the with-puppy group $t(1,14)=2.34$, $p<.05$, and the without-puppy group $t(1,16)=-2.45$, $p<.05$, but there was no significant change in the control group.

Research Question #2

Are there immediate or longer term effects related to exposure to pets and a structured curriculum?

This question was also answered using an ANCOVA with the pretest and pet ownership as covariates, and the paired t-test. The independent variable was the treatment group at each time of testing, and the dependent variables were the three role-taking tasks. Two univariate F tests were used on each dependent variable. One F test was used to assess pre- to posttest group mean differences, and the other to assess if any differences found were maintained from post- to post/posttest. Two paired t-tests were also employed to measure pre- to posttest changes, and then post- to post/posttest changes.

As found in research question #1, on the cognitive role-taking task, the paired t-test showed a significant change from pre- to posttest only in the control group $t(1,15)=-3.82$, $p<.01$, and no significant changes from post- to post/posttest were found, $t(1,15)=.66$, n.s., indicating that the pre- to posttest change was

maintained over time. The other two groups showed no significant within-group changes. The ANCOVA assessing the pre- to posttest differences showed no significance $F(2,47)=.759$, n.s.; and the ANCOVA that utilized the posttest as a covariate and the post/posttest as the dependent variable showed no differences in mean scores in any of the three groups $F(1,46)=2.957$, n.s.

The affective role-taking task demonstrated that the group with the puppy had both a significant pre- to posttest change $t(1,14)=2.69$, $p<.05$ and a significant difference between groups $F(2,47)=3.956$, $p<.05$ as identified by the Newman-Keuls' test. There was no significant change between the post- and post/posttest assessments, $F(1,46)=.136$, n.s., indicating that the pre- to posttest change was stable over time. The significance was maintained through the post/post testing period as evidenced by no significant change in the t-test, $t(1,13)=.49$, n.s. Neither the group without the puppy, nor the control group had any significant t-values at any testing period.

The perceptual role-taking task had no significant difference between the groups at either the pre- to posttest period $F(2,47)=.118$, n.s., or the post- to post/posttest period $F(2,46)=2.957$, n.s., when adjusting for pre- and posttest significant covariates. The group with the puppy and the group without the puppy, both changed significantly from pre- to posttest $t(1,14)=2.34$, $p<.05$; $t(1,16)=2.95$, $p<.05$, respectively, which was maintained through time as indicated by a nonsignificant t-value for the post- to post/posttest period $t(1,13)=-.89$, n.s.; $t(1,16)=.85$, n.s. The

control group, in contrast, did not improve or change significantly at any time of testing on this task.

Research Question #3

Does pet exposure with a structured curriculum about animals develop greater role-taking skills than the structured curriculum alone?

By again using an ANCOVA and a paired t-test, the groups utilizing the curriculum about animals, with a puppy in one group and without a puppy in another group, were compared. The ANCOVA assessed differences in means between the groups, using the pretest and pet ownership as covariates; and the paired t-test assessed changes within each group from pre- to posttest on each variable. The F values compared all three treatment conditions so the statistics given in this section reflect a sample size of 48 rather than the sample of the two groups under discussion.

The paired t-test on the cognitive role-taking task indicated no significant changes from pre- to posttest in the two groups $t(1,14)=.41$, n.s. for the with-puppy group; $t(1,16)=-1.73$, n.s. for the without-puppy group. The ANCOVA indicated significant pretest scores $F(1,47)=6.097$, $p<.05$ which when adjusted gave no significant main effects $F(2,47)=.759$, n.s., thus no difference between means was found in this task.

On the affective role-taking task the group with the puppy was significantly different from the group without the puppy $F(2,47)=3.956$, $p<.05$, adjusting for significant pretest scores $F(1,47)=24.753$, $p<.001$. The pre- to posttest change for the puppy

group was also significant $t(1,14)=-2.69$, $p<.05$, while the group without the puppy had no significant change $t(1,16)=-2.45$, $p<.05$.

Research Question #4

Is prior exposure to pets in a family setting related to role-taking skills in children?

This question was answered using an ANCOVA by looking at differences in pretest scores of those who owned and engaged in the care of, or played with an interactive animal (i.e., dogs, cats, horses, versus fish, turtles, or snakes) compared to the scores of those who did not own an animal. Pet ownership was assessed as a covariate, but was found to have no effect on pretest scores, on any of the variables (cognitive role-taking task: $F(1,47)=.062$, n.s.; affective role-taking task: $F(1,47)=.409$, n.s.; or perceptual role-taking task: $F(1,47)=.661$, n.s.)

Table 2. Means by Condition and Role-Taking Task at Each Testing Period

Group/Task	Curriculum With Puppy			Curriculum Without Puppy			pre	Control	
	pre	post n=15	post/post	pre	post n=17	post/post		post n=16	post/post
Cognitive (Items = 10)	5.0667	5.2889 (5.1667)**	5.8016	3.9137	5.6078	5.9608	5.0486	6.3333*	6.1250
Affective (Items = 15)	8.5048	10.1333* (10.1429)**	9.8980	8.5588	8.1267	8.8235	9.1761	8.9375	9.3750
Perceptual (Items = 6)	4.0467	4.7067* (4.7857)**	5.0714	3.8000	4.5294*	4.2941	4.3125	4.6250	5.1250

* = significant change at the .05 probability level from previous mean score
 ** = one member of group lost; post- to post/posttests adjusted accordingly

DISCUSSION

Restatement of Study

The purpose of this study was to examine the function of pets in the social development of children, specifically the development of role-taking abilities. Since interaction with peers and other forms of social interaction have been found to improve role-taking skills through the process of lowering egocentrism, this study assessed whether animals could foster the same development. Three areas of role-taking were assessed: cognitive role-taking (Greenberg, Marvin & Mossler, 1977; Mossler, Greenberg & Marvin, 1975), affective role-taking (Borke, 1971), and perceptual role-taking (Flavell, Botkin, Fry, Wright & Jarvis, 1968). These measures were used before and after an intervention adapted from A Humane Education Curriculum Guide with the Humane Education Teacher's Packet. The curriculum was administered to two out of three groups of 47 preschool children. This curriculum, with a puppy, was implemented in one of the two groups; the curriculum was implemented in the other group with a stuffed animal, while the third group was given activities unrelated to animals or animal care. A discussion of the results and conclusions of this project and recommendations for future research are now presented.

Discussion of Results

As predicted, there was a significant improvement in affective role-taking for the curriculum plus pet exposure group. These results indicate that exposure to a pet while learning about animals and animal care increases affective role-taking abilities in

preschool children. The ability to role-take affectively in young children has also been found by other researchers (Borke, 1971; Castle & Richards, 1979; and Chandler & Greenspan, 1972), which adds support to the conclusions that the age at which children are first capable of relating empathetically to others, both human and animals, is much younger than supposed by Piaget in his theory. Those findings are, however, consistent with Piaget's perspective that social interaction acts as an impetus for movement away from egocentrism. It appears that animals can precipitate the lowering of egocentric thought, and thus improve role-taking skills and the ability to differentiate the feelings of others from their own.

The fact that the children's enhanced levels of affective role-taking did not drop off when they were no longer in contact with the puppy, and were no longer learning about animal care seems to indicate that the lowering of egocentrism was not just a temporary phenomenon. Animals, then, can indeed make a considerable and significant contribution to the social development of the child. This demonstrates the importance of using animals and teaching about animals in a classroom or home setting. The curriculum emphasized empathy--how to care for an animal, what might hurt an animal, how might an animal feel if..., or how might an animal feel when... The concept was often related back to how the child might feel, e.g., "If you would feel this way, then how would the puppy feel?" This easily explains the clear significant findings on affective role-taking. By learning that animals might have feelings similar to their own, children could transfer the concept to acknowledging that other children might also have emotions similar to their own; thus an early

form of empathic awareness was facilitated through the learning from the curriculum and the hands-on experience with the puppy. Having a live puppy over a stuffed toy would engrain upon the children the methods of proper handling and the understanding of different emotions as evidenced by a whine, a wag of the tail, a gobbling of snacks, or a panting tongue--concepts that a stuffed animal could only hypothetically reinforce.

Although it was neither predicted nor expected, there was a significant pre- to posttest change in scores of the control group on the cognitive task. This might be explained as a practice effect on the posttest, from having previously taken the test. Another explanation might be that the set of activities relegated to the control group unintentionally enhanced their abilities to predict another's preferences or desires in some small way. While significant, the magnitude of the pre- to posttest change was small, and the importance of this change was diminished when the pretest scores were adjusted and no difference was found between the groups at the posttest period.

An additional unexpected finding was that both groups implementing the animal-care curriculum, one with a puppy and one without a puppy, showed an improvement on their perceptual role-taking scores from pre- to posttest. The same explanation may apply here as mentioned with the cognitive role-taking task, that of practice effect from the pretest. An alternative explanation might be that the significant improvement in both of these groups was due to the fact that the curriculum had some small impact on the children's spatial, perceptual role-taking abilities, or the

understanding that others may see things from a different perspective than they do.

The purpose of the curriculum was to assist children in their understanding of animals--how they live, what they need, and the responsibility of humans in meeting those needs. Through guiding children in understanding that different animals have different needs, the concept arose that different children may also have similar or different needs, likes, dislikes, roles, etc. The children also were asked to role play animals in different situations. This directing of children to understand differences and similarities between themselves and between themselves and animals, might have been the impetus in enhancing their skills. Learning that others have different viewpoints could explain the improvement in pre- to post-intervention scores for both groups on the perceptual role-taking task. However, the small change from one test period to another (less than one point) and the fact that there was no significance once the pretest was factored out suggests that the observed differences are of little real importance.

The findings in this study that children who owned pets at home had no greater role-taking skills than those who did not have pets can imply the need for parents, in order to utilize their animals to facilitate learning, to teach specific concepts about the animals, i.e., their feelings, their needs, the way they communicate with other animals, or with people. Apparently animal interaction alone does not facilitate children's learning in this area. Either the teaching of certain concepts and the animal exposure caused improvement in affective role-taking skills, or the animal was

instrumental in furthering child-to-child interaction in the preschool setting.

Considering Piaget's concept that child-to-child interaction facilitates development of role-taking skills, it was observed that the presence of a puppy in the groups did foster interplay and interrelating, sometimes above and beyond the intended efforts of the teachers. This was not apparent in the non-puppy groups where there was no distraction and the teachers were better able to maintain a semblance of order. The easily maintained structure in the non-puppy groups disallowed the maximum interaction that was found in the puppy groups.

This study confirms previous research that children can raise their levels of empathy through training or special interventions. A study by Staub (1971) found that children in kindergarten could be trained to understand and express the feelings of others in need through role-playing several different situations. Another study reported by Mussen and Eisenberg-Berg (1977) showed that 6 to 9 year olds could be directed towards prosocial behavior through role-playing that provided several different perspectives, including how others might feel.

Stage Categories Observed

According to the stage sequences stated by several theorists (Feffer, 1970; Fishbein, Lewis & Keiffer, 1972; Flavell, 1971; Selman, 1971b; and Urberg & Docherty, 1976) on the development of the ability to take the perspective of another, children were observed through this study to fall into every category. Some children were observed to be unable to distinguish between their own thoughts,

perceptions and emotions and those of another. At the second level, it was apparent by their responses that a few children realized that the other had a perspective separate from theirs, but were unable to ascertain what it was. Thirdly, some of the children were aware that others have separate perspectives and were able to assess what another might think, perceive or feel in certain situations. It was impossible in this study to decipher whether children were putting themselves in the other's position and thus answering correctly, or whether they actually were aware that others have perspectives based on the other's reasoning which may or may not be the same as their own (Selman, 1971b).

This problem of ascertaining the exact cognitive processes that children go through when they are tested on role-taking skills remains as an interpretational consideration. Using Borke's perspective (1972) that empathy at this basic level is indeed the ability to take the perspective of the other, regardless of deciphering the level of cognitive processes, this study will further consider the implications of the use of pets to facilitate empathy.

Role-Taking and Pets

The finding in this study that role-taking skills can be increased through animal interaction with young children, gives evidence that pets can indeed promote prosocial behavior through the proper instruction. Role-taking has been considered a prerequisite for movement to higher levels of moral reasoning (Selman, 1971a). Also, role-taking skills are positively associated with altruistic behaviors (Mussen & Eisenberg-Berg, 1977), and higher levels of interactive play skills (Rubin, Watson & Jambor, 1978). Further,

preschoolers demonstrating role-taking skills have shown better peer acceptance and popularity scores, than do children who have less role-taking abilities (Gottman, Gonso & Rasmussen, 1975). Thus, the improvement in role-taking scores for the puppy group shows an increase in understanding others' feelings, while the above mentioned research infers that not only can children learn to decipher others' feelings but they also act on that knowledge, affecting behavior.

A pet may function as a coach to social learning (Guttman, 1984) in a variety of ways. Veevers (1985) discusses how pets can change the nature of interaction with others. This was observed in the preschools through a higher amount of interaction with others in the group. There was more conversation, more play and sometimes more conflict as the dog acted as a catalyst for contact between children. Another function of a pet can involve how pets may be treated as an extension of oneself. For this reason puppies were used to foster nurturance and to allow the children to observe the dogs' growth and change. This, supposedly, gave the children a feeling of responsibility to be kind to the puppy, and gave them a chance to demonstrate nurturing behaviors; and as an extension of themselves they were more likely to treat the puppy as they would want to be treated. It may also have given them a sense of pride to be kind, because they had power over something smaller and weaker than they. The third function discussed by Veevers and observed in the puppy group was that of pets supplementing human interactions. Some of the shiest or quietest of children enjoyed stroking the puppies or feeding the puppies or talking to the puppies--they were not threatened by this type of interaction. Animals, then, may play a

significant role in assisting children in understanding and acting out prosocial behaviors.

SUMMARY AND CONCLUSIONS

This study examined the role-taking skills of preschool children before and after an intervention which utilized three different treatments: 1) a curriculum about animals incorporating a puppy, 2) the same curriculum, but without a puppy, and 3) a control group of activities unrelated to animals. Three categories of role-taking were assessed: cognitive, affective and perceptual. Results showed that the group which incorporated the use of a live puppy significantly improved their affective role-taking skills over changes in the other groups. These findings confirm the presence of role-taking skills in preschool children, and provide substantial evidence that pets can enhance a child's empathy.

These findings also provide a foundation of knowledge for parents, teachers and researchers who may desire to teach empathy and prosocial behavior. The data indicate that training children about animals and exposing them to a pet for "hands on" experience are valuable tools to develop and encourage empathic awareness. Actual exposure to an animal appears to teach more than just using abstract symbols, such as a stuffed toy, pictures or examples. Some factors which were found to be important in training children (also in Zahn-Waxler, Hollenbeck & Radke-Yarrow, 1984) included giving children direct experience; using training materials, and role-playing realistic situations which show how one or another might feel in that situation; explaining and sharing feelings in different situations; modeling appropriate behavior towards a pet; and specifying rules and principles necessary to regulate behavior both towards other people and towards animals. Rapport with the teacher was not a factor since

teachers were rotated among the groups. The curriculum used is generalizable to other preschool programs because teachers of different skill levels were rotated through each group. This implies that home teaching may also accomplish similar results through parents and a family pet.

In order to facilitate empathic awareness or affective role-taking, it appears to be important to identify attributes in common with other humans and with animals, for these seem to be factors involved in promoting the awareness of feelings in the self and in the other (Zahn-Waxler, et. al., 1984). Also, it appears that in young children empathy is enhanced through learning to care for and interact with a puppy and with other children. This complex process and foundation of social interaction either between children, between children and adults, and/or between children and pets fosters a lowering of egocentrism and the development of role-taking.

Limits of Study

One of the limitations of this study was that the curriculum, though created for preschoolers, was too advanced for their abilities. Although some adjustments were made prior to implementation, oftentimes the teachers would have to reorganize certain aspects to make it applicable and understandable at the preschool level. In the future, it would be helpful if these published curricula were tested before distribution; and those who wish to use this combination of activities should be aware of its need for slight adjustments.

Another limit to this study might have been the different skill levels of the teachers who implemented the treatments. The teacher

assignments were counterbalanced which enhanced external validity, however, one consistent teacher who could develop rapport with a group might foster even more improvement in role-taking ability.

Another possible factor that may have affected the outcome of this study was the fact that two different puppies were used, since two puppy groups ran simultaneously. The puppies were not of the same litter, though they were close in age. One puppy was very outgoing while the other tended to be on the retiring side. This variance might have affected results in some way.

The last limitations to be mentioned are that of the tasks' reliability and validity. Although the reliability scores are on the low side, the tasks remain an adequate standard considering the difficulty in creating tests for young children, and considering the small number of items within each subscale.

Although these instruments have been used in other studies to assess the levels of egocentrism, validation remains controversial. The content of each task has been determined to be valid and representative of the skills that are being assessed, but construct validation is not as accessible. Further, there are no comparable instruments with which to assess concurrent validity. Whether these tasks of role-taking actually measure levels of egocentrism remains open to discussion.

Future Research Recommendations

This study was a pioneer in the area of children and animals, and the significant findings can spur much future research. Using the design presented, a variety of social competence scales could be applied to assess the effects of animal exposure on different areas

of development. It would also be valuable to implement this curriculum and then pre- and posttest children's knowledge and attitudes towards animals. This would assess whether or not exposure to a pet and/or a curriculum about animals increases a child's general knowledge, awareness and tolerance towards the specific pet and/or animals as a whole. This kind of research has been done recently, but not on this age group and not using live animals. If research exposes young children's ability to learn about animals and improve their attitudes towards animals, then curricula can be developed and implemented to assist children in humane education and the humane treatment of animals. If education of humane treatment, both towards animals and other humans, can be learned at this early age (or even earlier), then our next generation, and our whole society will benefit.

It could also be beneficial to develop a similar program as this for in-home implementation that provides parents with a teaching manual and materials. It would be interesting to note if similar results were found, or if the parent as teacher could accelerate the learning, and possibly improve the results. A further study could examine the variety of ways pets are treated in a family setting, and then assess empathy levels comparing children whose homes foster responsive, respectful and humane treatment of pets, with children whose homes are less humanely oriented towards their pets.

The conclusions from this study are that 1) pets make a significant contribution in children's development of empathy and 2) the capacity for empathy can be strengthened and trained through experience and exposure to animals, while learning about animal care.

The relationship of empathy and other forms of role-taking with the construct of egocentrism and actual prosocial behavior have not been adequately resolved. This, and the role of pets in social development, remain important topics for future research.

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APPENDICES

APPENDIX I
PEOPLE AND ANIMALS

PEOPLE AND ANIMALS

A Humane Education Curriculum Guide

Developed by

The National Association for the Advancement of Humane Education
A Division of The Humane Society of the United States

Edited by

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For

National Association for the Advancement of Humane Education
Box 367, East Haddam, CT 06423

In Combination With

THE HUMAN EDUCATION TEACHERS' PACKET

Developed by

Dorothy Sammut-Tovar

for

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CONCEPT: HUMANS ARE ANIMALS

LANGUAGE ARTS

Learner Outcome: Students will recognize that many animals, like humans, use sounds to communicate with one another.

Teaching Strategy: Ask students why they think animals bark, chirp, meow, etc. Explain that since animals can't talk, they use other sounds, their own languages, to communicate. Play recording of animal sounds or call out names of animals and have students imitate the sounds that each animal makes. Sing "Old MacDonald."

Learning Activity: As teacher calls out animal names, students imitate sounds made by each animal. Discuss what animals might want to say to each other. How is this like what people say to each other?

Alternate Learning Activity: Teacher leads discussion on what sounds the puppy makes. Students imitate sounds and discuss what each sound might mean to the puppy. Discuss what dogs might say to each other. How can the puppy tell the students what it wants/needs? How can they respond or talk to it?

understanding, communication

CONCEPT: HUMANS ARE ANIMALS

SOCIAL STUDIES

Learner Outcome: Students will recognize that many animals, like humans, live in family groups.

Teaching Strategy: Show students pictures or flannel board cutouts of various animal families, including a human family. Elicit discussion as to what human family members do for one another. Relate what animal family members do for each other. Assign students to play members of animal families (cow, bull, and calf; rooster, hen, and chicks; male and female dog and pups; mother, father, and human child). Review sounds each animal makes and then send parent animals out of room temporarily. Mix children playing baby animals in center of room. Instruct them to make the noise of their assigned animal until their animal parents find them. Instruct parent animals to return to room and "gather their young" by finding the students making the appropriate animal sounds.

Learning Activity: Students participate in game as described above.

Alternate Learning Activity: Students participate in game as above, include parent dogs that "gather their young"--the puppy. Let children take turns being the dog parents.

families

CONCEPT: HUMANS ARE ANIMALS**MATH**

Learner Outcome: Students will classify humans as living things and as animals.

Teaching Strategy: Explain classification using colored blocks or other teaching aids. Prepare pictures and/or collections of various objects including humans and other animals, plants, and non-living things. Show pictures and/or objects to class and help students divide into groups of living and non-living things. Then have them divide living things group into plants and animals. Prepare a bulletin board or table with three labeled sections: Animals, Plants, Non-Living Things.

Learning Activity: Students sort pictures and place them on appropriate section of bulletin board or table.

Alternate Learning Activity: Students sort pictures and place them on appropriate sections of bulletin board. Let each child hold the puppy and say why he fits into the animal group. How is the puppy similar to each child?

classification

CONCEPT: HUMANS ARE ANIMALS

HEALTH/SCIENCE

Learner Outcome: By identifying characteristics common to all animals, students will recognize that humans are animals.

Teaching Strategy: Ask students to name their favorite animals. Show pictures of a variety of animals and then discuss what characteristics all these animals have in common (can move, eat, drink, sleep, change, grow old, and give birth to young). Do humans share these characteristics? Discuss the fact that humans are animals. Supply pictures of different kinds of animals, including humans.

Learning Activity: Students each take a picture of an animal and mount it on a piece of cardboard for the teacher to hang as part of a class animal mobile. Include pictures of students in mobile.

Alternate Learning Activity: Teacher takes a picture of each child with the puppy. The children then paste the pictures into a design on poster board.

living things/animals

CONCEPT: ANIMALS, LIKE HUMANS, HAVE CERTAIN RIGHTS**SOCIAL STUDIES**

Learner Outcome: Students will recognize that certain rights must be respected in order for individuals to exist together peacefully.

Teaching Strategy: Discuss with students: How would you like school if everyone were always hitting and shoving each other? How would you like school if everyone were always taking things that didn't belong to them? How would you like school if everyone talked at the same time and no one listened? Explain that when we treat each other kindly, respect each other's belongings, and listen to what others have to say, we are respecting others' rights to these things. If we don't respect others' rights, they won't respect ours and everyone will be unhappy.

Learning Activity: Students help teacher compose a list of rights for everyone in their classroom. Do these rights apply to pets as well? Why or why not?

Alternate Learning Activity: Students help teacher compose a list of rights for everyone in the classroom. Do these rights apply to the puppy as well? Why or why not? Have the students demonstrate the appropriate handling of the puppy, include talking, petting, giving water, etc.

cooperation, rights

CONCEPT: ANIMALS, LIKE HUMANS, REACT PHYSICALLY TO THEIR ENVIRONMENT
LANGUAGE ARTS

Learner Outcome: Students will demonstrate an understanding of the concepts hurt and pain and relate these to other animals.

Teaching Strategy: Define the words hurt and pain. Ask students to describe times when they felt pain. How were they hurt? How did it feel? Relate that animals other than humans also get hurt and feel pain. Ask students to describe any situations they can remember when they saw an animal that was hurt and was feeling pain. Can animals say "Ouch! "? How can we tell that they are hurt? (Sometimes they cry, act differently than normal, have visible wound.) Explain that we can often follow the rule: What causes pain for me causes pain for other animals.

Learning Activity: Students sit in a circle and, one at a time, relate situations, either in or outside the home, in which they could be hurt. Could other animals be hurt by these as well? How can we help prevent humans/animals from being hurt in each situation?

Alternate Learning Activity: Discussion as above while repeating the demonstration of actions that do not hurt the puppy. How do students react when they are in pain? How would the puppy react when it hurts?

concept development

CONCEPT: ANIMALS, LIKE HUMANS, REACT PHYSICALLY TO THEIR ENVIRONMENT

SOCIAL STUDIES

Learner Outcome: Students will recognize that failure to care properly for a pet can result in pain and/or discomfort for the pet.

Teaching Strategy: Use pet care resources to instruct students in basic responsibilities of pet ownership. Using flannel cutouts or pictures, review those situations that could be potentially harmful for a pet (e.g., rain-no dog house; sun-no shade or protection; owner forgets to provide food and/or water; other dog attacks). Provide pet care supplies and toy pets for household/family living center in classroom.

Learning Activity: As each situation is reviewed, students describe how they would feel if they were the pet in the situation mentioned (e.g., no water--thirsty; other dog attacks--scared). Would they like feelings like these? Why or why not? How could these uncomfortable feelings be avoided? Then, students use pet-care supplies, toy pets, and other items in household/family living center to create a proper home environment for pets.

Alternate Learning Activity: Discussion as above. Have students interact with the puppy using the pet care supplies.

responsibility

CONCEPT: ANIMALS, LIKE HUMANS, REACT PHYSICALLY TO THEIR ENVIRONMENT**HEALTH/SCIENCE**

Learner Outcome: Students will identify objects in the home environment that are potentially dangerous and could cause pain for children or pets.

Teaching Strategy: Help students identify potentially dangerous objects in the home environment (e.g., scissors, hot stove, broken glass, knives, needles, electric cords/sockets, poisonous household chemicals). Explain why each could be dangerous. Relate how the same objects are dangerous (can cause pain) for pets as well. Discuss how parents protect children from harmful objects (training, putting out of reach) and how we can use similar methods to protect animals.

Learning Activity: Students color pictures of dangerous situations that can be found in the home environment, then dictate captions for their pictures that describe why the situations are dangerous. Post pictures on bulletin board.

Alternate Learning Activity: Students sit in a circle, taking turns to hold the puppy. As each holds the puppy, they discuss different situations which may be dangerous. Have students color pictures of dangerous situations for both humans and dogs.

safety

CONCEPT: SOME ANIMALS, LIKE HUMANS, HAVE AND DISPLAY EMOTIONS

LANGUAGE ARTS

Learner Outcome: Students will use correct vocabulary to define human/animal emotions.

Teaching Strategy: Discuss emotions with students (e.g., fear, love, anger, jealousy, joy), asking students to share examples of situations in which they have experienced each emotion. Then ask: Do pets also have these feelings? Share examples of people and pets in situations that could evoke an emotional response (e.g., child being hugged, pet being hugged; child with toy taken away, pet with toy taken away; child alone in strange place, pet alone in strange place).

Learning Activity: Students name emotion demonstrated in or evoked by each picture or situation. Then act out situation, assuming roles of humans or animals.

Alternate Learning Activity: Students name emotion demonstrated in or evoked by the situation. Then act out situation using puppy. Other students may assume roles of other humans or pets.

vocabulary development

CONCEPT: SOME ANIMALS, LIKE HUMANS, HAVE AND DISPLAY EMOTIONS

SOCIAL STUDIES

Learner Outcome: Students will identify actions that can evoke emotional reactions in family pets.

Teaching Strategy: Place toy pet animals and pet care supplies (leash, brush, pet food box, food and water dishes, collar with tags, pet toys, litter pan, scratching post) in the classroom. Use items to demonstrate actions that can cause positive and negative reactions in pets (e.g., positive-providing food and water, brushing, petting/hugging animal; negative-withdrawing food while pet is eating, mishandling pet, tying pet outdoors alone on short leash, ignoring pet), and help students to identify each emotion as the appropriate situation is portrayed.

Learning Activity: Students use pet care items to recreate teacher demonstrations, role playing pets and owners in various situations.

Alternate Learning Activity: Activity as above utilizing the puppy in the role-playing.

family living

CONCEPT: SOME ANIMALS, LIKE HUMANS, HAVE AND DISPLAY EMOTIONS

HEALTH/SCIENCE

Learner Outcome: Students will identify bigger than/smaller than relationships among animals and other children.

Teaching Strategy: Discuss different sizes with students (e.g., tiny, small, medium, large/big, very large). Ask students to share examples of things that fit each size group. Show pictures of different sized animals and different sized people. Have children place each picture into a specifically designated group.

Learning Activity: Students are given "Big or Small?" worksheets, on which they put circle around the animals that are bigger than they are; and put a square around the animals who are smaller. Compare children's parts with that of the stuffed animal toy.

Alternate Learning Activity: Students discuss which body parts, i.e., hands, eyes, ears, etc., are bigger than or smaller than that of the puppy's or the puppy itself. Each child compares self with the puppy.

Do worksheets.

classification

CONCEPT: HUMANS' DIFFERENT ATTITUDES TOWARD ANIMALS SOMETIMES AFFECT THE WAY HUMANS TREAT THE ANIMALS

LANGUAGE ARTS

Learner Outcome: Students will demonstrate an understanding of the words same and different as these words apply to other students' feelings about animals.

Teaching Strategy: Explain to students that not everyone likes and dislikes the same things. Provide examples from the students' experience (e.g., some like peas, some don't).

Learning Activity: Ask students to identify which of the following 3 animals they think would make the best pet: dog, cat, rabbit. Choose one student who voted for each pet and have the 3 students stand at different places in the room, each holding a picture or drawing of his/her chosen animal. Upon instruction from the teacher, students stand by the student who chose the same animal as they did. How many liked the same pet that they did? How many liked different pets? Each student then says one thing he/she likes about his/her favorite pet animal.

Alternate Learning Activity: Students discuss what food they like that the puppy might like or not like. What activities are different or similar in the puppy's life and that of the students, i.e., climbing trees, jogging, taking a bath, chasing cats, etc. Ask students to identify which of the following three activities they would like to do best: play with a ball, go on a walk, eat a snack. Have one student who voted for each activity stand in a corner of the room, each holding a picture of the activity. Upon instruction from the teacher, have students stand by the child who liked the same

activity. Have each group sit in a circle. Holding the puppy in the middle, have each discuss why he and the puppy like that activity. Let each group interact with the puppy in the chosen activity. (The "walk" group might play follow-the-leader; the "ball" group may play fetch, the "snack" group may feed/eat cookies.)

vocabulary development

CONCEPT: HUMANS' DIFFERENT ATTITUDES TOWARD ANIMALS SOMETIMES AFFECT THE WAY HUMANS TREAT THE ANIMALS

SOCIAL STUDIES

Learner Outcome: Students will explore and express their feelings about certain animals.

Teaching Strategy: Ask students to share feelings about different animals, using pictures of animals to generate responses. What animals do they love, like, don't like? What animals are they afraid of or not afraid of, and why? (Be sure to include pets, farm animals, wildlife, and animals commonly feared.)

Learning Activity: Each student colors a picture of his/her favorite animal and explains why it is the favorite. Teacher points out that some students have different favorite animals than others.

Alternate Learning Activity: Students color pictures of their favorite animal and an animal that the puppy would like to play with. Then students sit in circle and as pet sits in each child's lap, have him/her discuss why others might have chosen different favorite animals for themselves and the puppy.

expressing feelings

CONCEPT: HUMANS' DIFFERENT ATTITUDES TOWARD ANIMALS SOMETIMES AFFECT THE WAY HUMANS TREAT THE ANIMALS

MATH

Learner Outcome: Students will identify more than/less than relationships among student opinion groups in class.

Teaching Strategy: Mount pictures of favorite pets (from previous assignment) on bulletin board. Help students find and count pictures from other students who chose the same animal they did. Then help them find and count pictures of favorite animals that were different.

Learning Activity: With help from the teacher, students count pictures of same/different favorite animals and identify whether more/less students liked the same animal they did.

Alternate Learning Activity: Same activity as above. Utilize unused time for monitored free-play with puppy.

counting, more than/less than

CONCEPT: LAWS EXIST TO GOVERN THE KEEPING OF SOME ANIMALS

LANGUAGE ARTS

Learner Outcome: Students will identify how rules can help a classroom pet.

Teaching Strategy: Help students define problems an animal might have while living in your classroom (e.g., staying out of danger, finding a quiet place to sleep, getting fed or watered on time). Explain that students can help make life more comfortable for a pet if they know how to act around the animal. Bring in a toy animal to be an imaginary classroom pet. Discuss the special needs that the animal might have. Use poster, "How to Meet a Dog."

Learning Activity: With help from teacher, students compose rules for care of and behavior around a real classroom pet. Are there also rules about how pets at home should be treated? How do these rules (laws) help the pets? Students take turns bringing favorite toy pets from home to be the imaginary class "pet of the week." With each new pet, review and practice class rules for appropriate behavior.

Alternate Learning Activity: Same activity as above. Utilize the puppy to practice the class rules for appropriate behavior.

verbalizing ideas, organizing

CONCEPT: LAWS EXIST TO GOVERN THE KEEPING OF SOME ANIMALS

SOCIAL STUDIES

Learner Outcome: Students will identify rules that apply to care of and behavior around family pets.

Teaching Strategy: Discuss the rules which have been established for appropriate behavior within your classroom. Compare these with corresponding rules for family living. Review the pet rules developed in LA activity. Which of these rules would also apply to care of and behavior around family pets? Discuss additional rules which might be appropriate for keeping a pet as part of a family. Provide toy pets and pet supplies for household/family living center in classroom. Use poster, "All Pets Need..."

Learning Activity: With help from teacher, students identify rules for keeping a pet as part of a family (feed pet on time, keep water bowl full of fresh water, don't hit or harm pet, don't let pet damage neighbor's property, show pet attention, etc.). Students then use "Who Needs What?" worksheet.

Alternate Learning Activity: Students then use items in household/family living center to act out roles of responsible family members who obey all the rules for keeping a pet safe and comfortable. Incorporate puppy into role playing.

family living

CONCEPT: LAWS EXIST TO PROTECT SOME ANIMALS

LANGUAGE ARTS

Learner Outcome: Students will demonstrate an understanding of the word protection and will identify the consequences of failing to protect a classroom pet.

Teaching Strategy: Discuss the meaning of protection, relating to students' own needs for protection.

Learning Activity: Using either the classroom pet or a toy animal as a subject, students discuss from what situations the animal must be protected (e.g., being handled too roughly, sudden movements or excessive noise that might frighten it, being knocked down or stepped on, being too cold or too warm). Talk about what might happen to the animal if it were not protected from these situations.

Alternate Learning Activity: Same activity as above being careful that no one demonstrates inappropriate or rough behavior. Using the puppy, have children role-play situations where puppy needs protection.

vocabulary development

CONCEPT: LAWS EXIST TO PROTECT SOME ANIMALS

SOCIAL STUDIES

Learner Outcome: Students will recognize the similarities between rules or laws to protect children and rules or laws to protect animals.

Teaching Strategy: Identify how classroom rules not only restrict or govern student behavior, but also protect students from inappropriate behavior by other students (e.g., "No hitting" means I won't get hit; "Respecting others' property" means my things won't be damaged). Explain that in the community, rules to protect humans and animals are called laws. Share examples of common laws and how they protect people. Then explain that laws also exist to protect animals. Review pet needs discussed in LA.

Learning Activity: Students will use the worksheet, "What's Wrong With This Picture?"

Alternate Learning Activity: With help from teacher, students suggest what rules (laws) could be made to guarantee pets protection. Have children demonstrate the appropriate behaviors that the rules enforce.

communities, rules and laws

CONCEPT: LAWS EXIST TO PROTECT SOME ANIMALS**HEALTH/SCIENCE**

Learner Outcome: Students will compare their own needs for protection from the weather to those of animals.

Teaching Strategy: Lead discussion about what it means to be protected. Present a variety of weather conditions in which some sort of protection is needed (e.g., snow, wind, rain, heat). Elicit discussion of why pets as well as people would need protection in these situations.

Learning Activity: Students name things that would protect people and things that would protect pets in the various weather situations. Then students draw pictures of one of the weather situations, including in the picture themselves, a pet, and the things needed to protect each of them.

Alternate Learning Activity: Teacher leads role-play in different weather situations, allowing children to choose methods of caring for the puppy.

living things/animals, weather

CONCEPT: HUMANS HAVE THE RESPONSIBILITY TO PROVIDE PROPER CARE FOR ANIMALS KEPT IN PUBLIC OR PRIVATE FACILITIES

MATH

Learner Outcome: Students will use concepts of big/little and more than/less than to describe the living space needed by various animals.

Teaching Strategy: Show students pictures of familiar animals. Help students identify each. Then pair pictures with one large animal and one small animal in each pair.

Learning Activity: Students identify big and little animal in each pair of pictures and state which animal needs more/less space. Follow up with role play of animal movements. Discuss: Does the way in which the animal moves tell us anything about how much space it needs? Students use worksheet, "Animal Homes."

Alternate Learning Activity: Same activity as above, substituting follow-the-leader, imitating the puppy's movements around various-sized objects. With the worksheet.

big/little, more than/less than

CONCEPT: CAREERS EXIST THAT INVOLVE WORKING WITH AND FOR ANIMALS**HEALTH/SCIENCE**

Learner Outcome: Students will recognize the similarities between doctors for animals and doctors for people.

Teaching Strategy: Generate discussion of children's experiences in visiting a hospital or doctor's office. What kinds of things does the doctor do? What do the nurses do? Ask if any children have taken their pets to an animal doctor. Discuss similarities of human/animal doctors and the nurses or technical support staff that assist them. Discuss added difficulty for veterinarians because patients can't say how they feel. Provide toy pets, stethoscopes, toy thermometers, bandages, and other appropriate "props" for students to role play veterinarians.

Learning Activity: Students role play people and animals in a veterinarian's office. Then each student states a reason why a veterinarian is a special friend for pets.

Alternate Learning Activity: Same activity as above incorporating the puppy in role play.

health

CONCEPT: HUMANS RAISE AND KEEP PET ANIMALS TO FULFILL EMOTIONAL NEEDS

LANGUAGE ARTS

Learner Outcome: Students will define the word friend and apply it to their feelings toward pets.

Teaching Strategy: Elicit discussion about the word friend. Questions may include: What is a friend? Who are your friends? What do friends do for each other? How do you feel about your friends? Then, give examples of how pets fit these descriptions of friends. Discuss the constancy of pet friendships.

Learning Activity: Using toy animals, students role play how pets and people are friends. As a follow-up activity, have students bring in pictures of their pets to create a bulletin board entitled "Our Friends."

Alternate Learning Activity: Same activity as above substituting the puppy for the toy animals.

vocabulary development, role play

CONCEPT: HUMANS RAISE AND KEEP PET ANIMALS TO FULFILL EMOTIONAL NEEDS

SOCIAL STUDIES

Learner Outcome: Students will recognize that pets are an important part of many families.

Teaching Strategy: Show students pictures representing a mother, father, brother, sister, grandparent, and pet. Identify each as a possible family member. Ask students to identify what each does as part of a family. Point out that families often have different combinations of these members. Ask students to identify the individual family members (including pets) that comprise each of their families.

Learning Activity: Students color pictures showing a family activity in which a pet is included. As a follow-up activity, place pet-care supplies (leash, bowl, toy, brush, etc.) in classroom to be used in free-play activities.

Alternate Learning Activity: Same activity as above incorporating the puppy in the free-play activities.

families

CONCEPT: SOME PET ANIMALS ONCE MET OR NOW MEET HUMAN NEEDS OTHER THAN EMOTIONAL FULFILLMENT

SOCIAL STUDIES

Learner Outcome: Students will recognize that special treatment is required for pets.

Teaching Strategy: Cut the front out of a large appliance carton to make a mock cage large enough for a student to sit in.

Learning Activity: Students take turns sitting in cage and role playing classroom pet. Other students ask pet how it feels and how it wants to be treated. Teacher guides activity with questions such as: Do you like to be left alone at night and on weekends? Do you like people to look at you all the time? Would you like a quiet, private place in your cage? How would you like to be handled?

Alternate Learning Activity: Same activity as above incorporating the puppy into the role play.

role play, expressing feelings

APPENDIX II
GAME PLANS FOR CHILDREN

ACTIVITIES ADAPTED FROM
GAME PLANS FOR CHILDREN

by

Jeanne K. Hanson

CLOTHES, OR WHAT DO WE WEAR?

Many new words are hiding right now on the students. They describe the students' clothing. Teach the concept of clothes first. Then point out the different kinds, asking the children to repeat each word. Then, if possible, see if the children can identify them.

You wear Teach the bigger items first, such as:

pajamas	sleepsack	suspenders
dress	nightie	diaper
pants	underpants	socks
shoes	plastic pants	booties
hat	undershirt	coat
jacket	sweater	shirt

Clothing parts Same as the above, but move to such smaller parts as:

zipper	buttonhole	button
snap	hood	cuffs
sleeve	collar	mittens
strap	lace	

Parents' clothes Next a tour of the parental closet and dresser:

slip	bra	vest
sport jacket	suit	necklace
bracelet	T-neck shirt	ring
necktie	loafer	sandals
high-heeled shoes	gloves	

Throw it Have a "Throw It" quiz, with the children finding, and throwing up in the air, any clothing item you name. (Then they put each one back where it belongs!)

TOYS DO IT, OR MAKE THE KEYS CLATTER

The games here will provide a sense of power and some key vocabulary for the students.

For a preschooler, say, "Make the ball roll." Then ask him or her to do it and say for you, "ball rolls." (Don't switch your own sentence to "roll the ball;" it is harder for him or her to change the order of the words back to "ball rolls.")

Basic moving Proceed according to the above instructions, with the following actions:

truck moves	blocks fall
shovel digs	water splashes
drum booms	boat floats

More moving As above, but with:

keys clatter	water sloshes
dishes clatter	ball bounces
horn toots	rattle rattles

Getting harder As above, but with:

clock bongs	train clanks
bell rings	paper tears
top spins	car crashes

Review it Review the phrases by asking each child to clatter, dig, ring, bounce, etc. Read a short story with the extra time.

HOW WE MOVE INDOORS, OR MOVE IT, KID!

The games will increase the students' vocabulary. Teach the children each action; demonstrate it if necessary, while saying the appropriate word. Then ask each child to perform and describe it, if possible.

What you can do I Proceed according to the above instructions with these actions:

walk	talk	roll
crawl	laugh	clap hands
jump	swing arms	sing
bend over	rub	shout
kick	nod	

What you can do II As above, but with:

squat	clap hands	lean to one side
crouch	pat	turn a light switch on and off
chew	scratch	hop
stretch	thump	sniff

More elaborate I Next, have the children perform the following actions, one by one. As you go along, ask the children to say the basic words while you elaborate on them, as indicated by some samples in parentheses below.

make a fist ("now you look extra strong")
 giggle ("ho ho ho, ha ha ha, what's so funny?")
 pound your fist
 turn the pages of a book
 bend your elbow
 point your toes
 flex your arm muscle
 twist your wrist
 shut the door

More elaborate II As above, but with:

march around the room ("you look like you're in a parade")
 listen carefully
 gallop
 blow your nose
 tickle me

whisper in my ear
 whap the chair
 bow or curtsey
 poke the sofa

Truly exotic I As above, but with:

pinch the upholstery ("now we wouldn't do that to our
 brother, but it's okay here on the sofa")
 pull the pillow
 hang up the telephone
 buzz
 wobble
 dangle
 scrub
 kneel
 slide

The ultimate! As above, but with:

stamp ("my, you look mad!")
 walk on tiptoe
 prance
 slobber, spit and drool (optional)
 cut it in half
 stack books
 turn the faucet off
 whistle (try, anyway)
 blink and wink (try)

Do it, big kid Review the above actions by asking the children to
 do them.

REFLECTIONS, OR WHAT DO YOU LOOK LIKE WHEN YOU'RE DOING ALL THESE THINGS?

To increase the children's awareness of themselves in action, use a full-length or large mirror. Preschoolers can really enjoy them. Make sure to give extra praise here because here the children are really "on stage."

What is that? Lead each child up to the mirror. Help him or her touch, on the glass, his/her nose, hair, eyes, mouth, shoulders, stomach and other visible body parts. Explain to him or her that this is a "real reflection--it's what you really look like. But it isn't you. It's like a picture of you. And it shows what Mom really looks like too, doesn't it? It's a reflection."

Then have him or her find other body parts in the reflection.

You're looking good Choose one of the games in game group 3 above, and have the students perform the actions in front of the mirror. Either you or the students should describe them at the same time.

With extra time, read a short book.

TASTES, OR IS IT YUCKY?

Students can learn differences among the tastes, hear the words connected with them and, if possible, learn to incorporate them into his or her vocabulary.

Sweet and sour Set out two sweet foods and two sour ones. Have each child taste a tiny bit of each. Say to him or her, for example, "Honey is a sweet food. Candy is a sweet food. Vinegar is a sour food. Mayonnaise is a sour food." Keep the food in or near the original containers so that each child learns to identify them, too.

Then move the foods out of order. Ask a child to taste and tell you which are sweet and which are sour. (Stress that we only taste things in the kitchen with an adult.) Have the children take turns with this game.

Salty and bland As above, but use two salty snack foods and two bland foods such as plain bread and bran.

Crunchy and smooth As above, only try something like nuts and hard candy vs. ice cream and margarine.

A big taste test Ask some children to take any three foods out of a group and tell you whether each is sweet or sour, salty or bland, or crunch or smooth. (Accept combinations and approximations!)

SMELLS, OR DOES YOUR NOSE LIKE IT?

These games require the children to discriminate among smells. Bear in mind that yucky is sometimes in the nose of the sniffer. The classification isn't as important as learning that odors can be very different and that we can associate them with their sources. Remember to point out that we wouldn't eat any of these things unless a grown-up gave them to us.

Because it is not easy for a child to breathe through the nose while keeping the mouth closed, you may need to teach this technique first.

In the kitchen Let each child smell the following things while you give each name. Then ask whether it smells good or bad.

all kitchen spices and extracts
canned, boxed and fresh foods

A sniff tour As above, but with:

perfumes
furniture
books

Outdoors As above, but with:

grass	outdoor water
dead leaves	various flowers
tree trunks	bushes

Snifferoquiz Blindfold a child and ask him or her to smell various things and identify them. Have children take turns.

TEXTURES, OR WHAT DOES IT FEEL LIKE?

These games provide a basic introduction to the words for what one feels with the fingers.

Rough and smooth Set out two rough objects, such as a rock and a piece of sandpaper; and two smooth objects, such as a piece of paper and a lid. Tell the children something like, "That is a rough rock. That is rough sandpaper," and so on.

Then switch the objects around and ask the children to touch them and tell you which are rough and which are smooth.

Have children put rough and smooth things into separate piles.

Hard and soft As above, but with a plastic truck and a table, for example, vs. a marshmallow and a pillow.

What's there Blindfold a child, then place one rough, one smooth, one hard and one soft object in a brown paper bag. Leave only enough room at the top for the child to reach in with one hand. Without looking, ask him or her to describe each object as rough or smooth, hard or soft. Then ask the child to tell you the name of each item, once again without looking. Finally, have the child show you the object to see if he or she was correct. Have the children take turns with this.

NOISES, OR CAN YOU HEAR ONE HAND CLAPPING?

Noises are part of our world and so is silence. The purpose of these games is to teach the children the difference, as well as how to discriminate among sounds.

Loudly and softly Sing, trickle water (or imitate the sound of running water) and clap--each loudly, then softly. Tell the child which sound is loud and which is soft.

Then ask each child to tap a spoon on the table--first loudly, then softly. Then talk both ways. Then laugh both ways.

Silence The Montessori method makes a good point when it teaches that silence must be learned to be appreciated. A child must learn how to be silent in several steps--no talking, no moving the feet, no moving the arms and so on.

Once this has been mastered, ask the children to listen carefully and to identify noises they can now hear--a car? the washing machine? the wind? a sibling? an airplane overhead? etc.

Sound tapping To help the children learn to identify more sounds, blindfold one (if a child finds this frightening, wait until he or she is a few months older). Then ask the child to listen when you tap on an object to figure out, by the sound only, what you are tapping. Tap things like a window, a plastic table, a wooden chair and so on. The child's answers may be substances, like "metal," or objects, like "the chair." Either is fine, but tell the child that it's the substance we really hear--it's a "wooden chair," "metal lamp pole," "glass window," "plastic table," etc. Have the children take turns with this game.

OPPOSITES, OR WHAT DO YOU SAY WHEN YOU DON'T WANT TO SAY YES?

These games teach a wide variety of sensory opposites to help children interpret and classify familiar experiences and concepts. If the children are inexperienced at this, illustrate what "opposite" means by saying, "No is the opposite of yes," "Light switch on is the opposite of light switch off," and a couple of other examples close to the children's experience.

Then assemble some of the following objects to illustrate opposites and have your child "act out" the others. (Learning by doing should be used whenever possible, since it is the kind most readily remembered.)

Opposites I Use objects to demonstrate or act out these opposites with the children.

big vs. little or small	open vs. shut or closed
heavy vs. light	loud vs. soft or quiet
dark vs. light	empty vs. full

Opposites II As above, but with:

fast vs. slow	top vs. bottom
hard vs. soft	in vs. out
push vs. pull	cold vs. warm and hot

Opposites III As above, but with:

black vs. white	lock vs. unlock
up vs. down	on vs. off
front vs. back	hungry vs. full

Opposites IV As above, but with:

under vs. over or above	dirty vs. clean
fat vs. thin or skinny	asleep vs. awake
straight vs. bent or crooked	short vs. tall or long

Opposites V As above, but with:

fix up vs. wreck or mess up	in front of vs. behind
forwards vs. backwards and sideways	rough vs. smooth
dry vs. wet	fussy vs. smooth

Opposites VI As above, but with:

young vs. old	happy vs. sad
start vs. finish	around vs. through
ugly vs. pretty, beautiful or handsome	beginning vs. end

Opposites VII As above, but with:

fresh vs. stale or rotten	many vs. few
left vs. right	a lot vs. a little
crazy vs. sane or normal	more vs. less

Opposites quiz Ask the children to act out or bring objects to you to illustrate the above opposites.

SHAPES, OR IS THAT REFRIGERATOR A CIRCLE?

The games here teach children the shape names of the objects around us. They will help them see the world in a little different way. At this level, ignore the issue of two-dimensional as opposed to three-dimensional objects--use the names for the flat shapes, but add one key double name--"round circles"--to teach both words.

Our basics On a piece of paper, draw a square, a rectangle, a triangle and a circle. Point out what distinguishes each ("a square has four straight sides and four corners," for example) and guide each child's finger around the edges of each shape. Then you, or each child if possible, should cut them out so the child can play with them. Review their names during playtime. Have all the children put their shapes in various piles. Count them together.

All around us Ask the students to be your "shape detectives" and lead you around the room, showing you "round circle-shaped things." Find four together; then look at four squares, four rectangles and four triangles.

Or you could draw pentagons, hexagons, octagons, polygons, ovals, stars, rosettes and several kinds of triangles and cut them out with the children.

COLORS, OR DO YOU HAVE ON PURPLE SOCKS?

The games here are designed to teach children basic colors. This is much harder to learn than most realize. So concentrate at first on only the truest, brightest colors, a few at a time.

The primaries Set out objects in the following colors. Or have the students scribble these colors with crayons on separate pieces of paper. Teach the names. Then ask the children to find something around the room in each of these colors (accept anything close, just remarking, "Yes, that's a dark red"):

red
blue
yellow

More colors As above, but with:

green
orange
purple

Still more As above, but with:

black
brown
white

More As above, but with:

tan or beige
pink
grey

Ask children to get into groups. Each group being their favorite color. Count how many like which colors. Read a short story, with extra time.

NOTICING SMALL DIFFERENCES, OR WHAT'S GOING ON HERE?

The games here teach children to pay attention to small differences and to remember what they are. This skill is useful in distinguishing among letters like "b," "d" and "p" and between similar words like "snake" and "smoke." It also makes everything around, from cloud patterns to wallpaper, a little bit more interesting.

What's up? Before the children come into the room, put a chair in an unusual place. Ask what is different.

Then ask a child to put his or her head down, hiding the eyes. Quickly change the position of two medium-sized objects (put a milk carton into the fruit bowl or the wastebasket in front of the TV, for example). Ask again, "What is different?"

Next change the position of smaller objects, placing them where they will be visible (such as a glass full of water in the middle of the kitchen floor). Ask "What's going on around here? What's different?"

Look hard While the children are watching, line up three small familiar objects in front of them. Tell the children to look carefully and to remember what's there, because you will be taking one of them away soon. Remember to have the children name each object from left to right a couple of times, saying the names over to themselves. Tell them this is a "memory trick."

Then ask one child to hide his or her eyes. Remove one object. Which is missing? Take turns with this game.

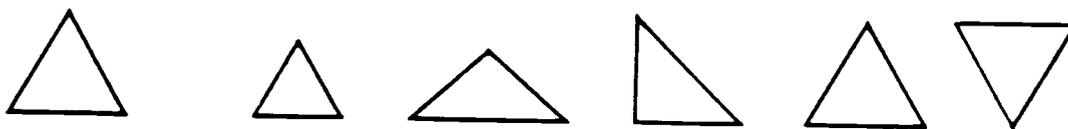
Look harder As above, only use six objects. Remove one.

Look even harder As above, only remove two objects at once, then three. With any extra time, read a short story.

DIFFERENT SHAPES, OR BE A SHAPE DETECTIVE

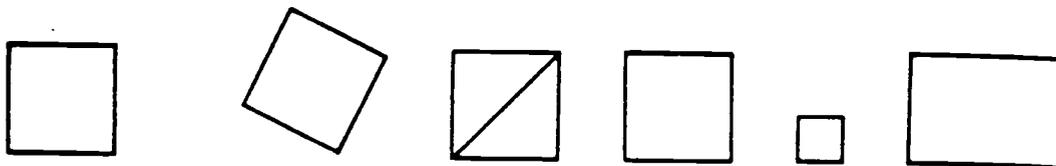
These games bring children one step closer to noticing the small differences among alphabet letters. And they stress differences in size, shape, tilt, left vs. right side and other broad features--differences more important for distinguishing letters than, say, a smudge or a color difference.

One line at a time Draw a line of triangles such as the following on a chalk board:



Then ask a child to be a "shape detective." Tell him or her to look hard at the first triangle, the one on the left. Now move along from left to right and point out which other triangles are exactly like the one on the left.

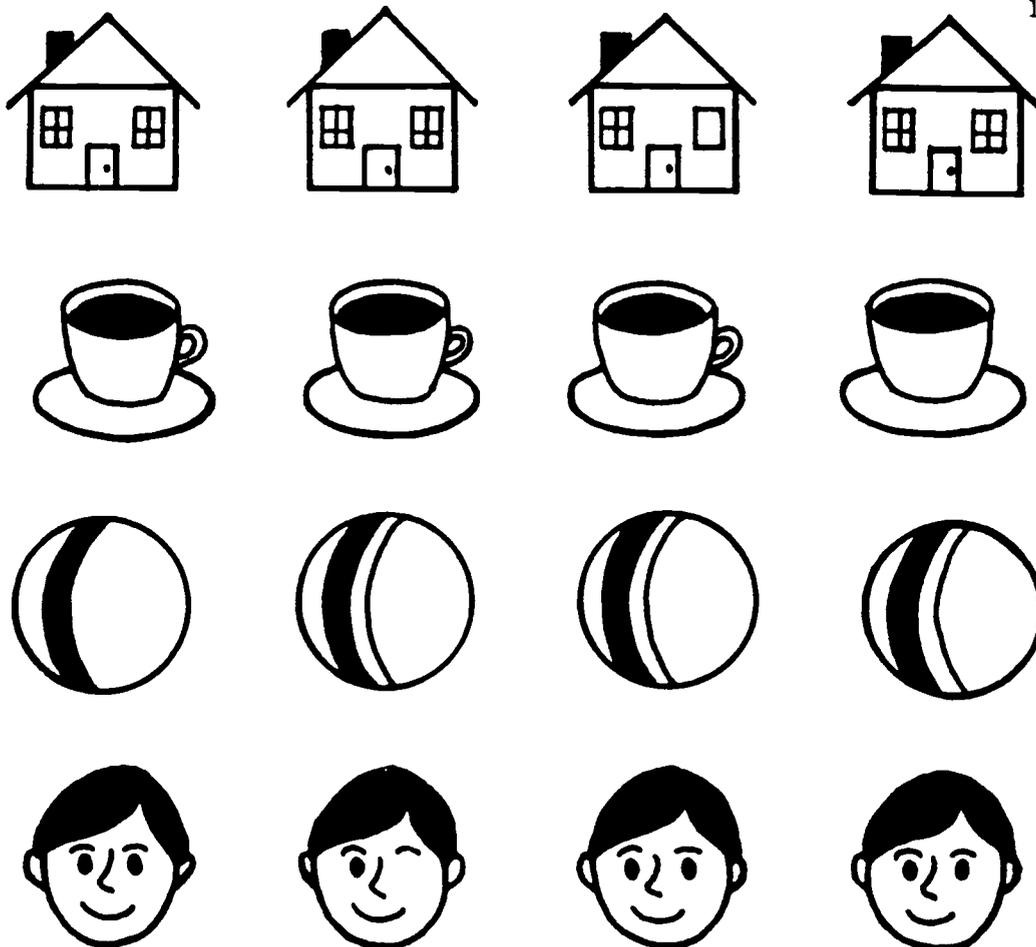
Do the same with a line of squares such as:



Remind the child that we go from left to right when we are shape detectives, because that's what big kids do when they read. Do this a few times with other "detectives."

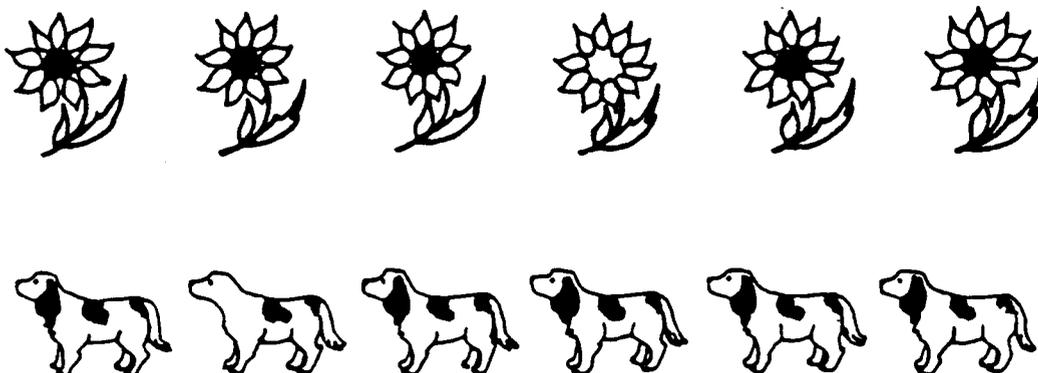
More shapes As above, only use circles and rectangles.

Which is different I? Stretch your own artistic abilities by drawing two to four lines of four familiar objects. Within a line, all are alike except one, which has something missing, such as:



Line by line, and looking left to right, ask your child which one is different. What is missing?

Which is different II? As above, only with longer lines of objects and slightly more complicated ones--perhaps fancy flowers, one with its center missing, and dogs, with one missing an ear. Have the children circle the different ones.



THE ALPHABET, OR ABC TRA-LA-LA

The games here are for teaching children the alphabet. At this point they focus on the names, not the sounds, of the letters.

Sing it Sing the "abc" song with the children.

Review it Using a child's alphabet book of any kind, point to each letter as you sing, just to give the child a preliminary idea of its appearance. But review the song until it is "second nature" to the child before proceeding any farther.

Each letter I Using a child's alphabet book or toy letters, help the children reach a basic recognition of letters Aa through Hh.

Each letter II As above, but review Aa through Hh and add Ii through Pp.

Each letter III As above, but review Aa through Pp and add Qq through Zz.

Each letter IV Do a complete Aa through Zz review of both upper- and lowercase letters, in order. Then take turns, with the children turning to pages at random. Ask a child which letter is which. Or have a child blindfolded and feel a letter and say what it is.

FOLLOWING DIRECTIONS, OR LISTEN AND DO

The games here will sharpen children's listening skills, memory and ability to follow directions. All of these are valuable for reading and school tasks in general.

Clap your hands Tell the children to be absolutely quiet and look at "the teacher" because they will be asked to do two tricks. Emphasize that each child must listen carefully, do them in order and not begin until you are finished talking.

Start with one like "clap your hands, then scratch your tummy."

Then do a few more two-part tricks such as:

jump twice, then touch the table
 rub your tummy, then stamp your foot
 fold your arms, then pat your head

Harder As above, only progress to three-part and even four-part tricks. Teach the children to repeat the instructions to themselves as you say them, before beginning. By putting an activity into words we can remember it better.

Freeze Sing or play some music while your child dances around. Tell him or her to stop fast or "freeze" as soon as the song stops. Do this several times.

"Simon Says" Teach the children the rules--do what Simon says, one thing at a time, but only when "the teacher" actually says, "Simon says," first.

Start with, "Simon says pat your knees." "Simon says scratch your ear" and so on. Then "Touch your cheek"--oops!

Next give each child a turn to tell you what to do.

RHYMES, OR ARE YOU A FUNNY BUNNY?

Announce, "I'm going to say some rhymes now." Older children can play it with you, increasing their knowledge of words and word sounds.

Rhymes with I Explain to the children that two words rhyme if they both end in the same sound. For example, "see" and "we" rhyme. Then ask each child to think of as many words as possible that rhyme with each of the words listed below. If a child gets stuck, give an easy hint such as (for "see") "it's in the middle of your leg."

Accept anything that's a real word. If you get "clee," just tell the child that "clee" does rhyme with "see" and it could be a word in another language, but it isn't one in our language, so he or she should think of another one.

Start with:

bat	up
met	bee
hop	four
sit	book

Rhymes with II As above, but with:

pot	ten
slow	bar
four	bed
date	chair

Rhymes with III As above, but with:

nail	town
gun	eye
fix	floor
write	toy

Rhyming harder Ask the children to start the game by providing a word to rhyme. Then take turns saying rhyming words as long as you can. Read a poem letting children fill in rhyming words.

ALLITERATIONS, OR THE BEGINNING SOUNDS THE SAME

Like rhymes, alliterations are fun to hear. Children can provide them by the copious cartful. They teach sound and word familiarity as well as a little concentration.

Duh, duh, duh and so on Explain to the children that an alliteration is any two words--or more--that start with the same sound, the way "dog" and "dark" start with the "duh" or "d" sound.

With alliterations, no one cares how they are spelled--"cuckoo" and "kind" form an alliteration. But in these cases, point out the difference to the children.

Take turns with your child thinking of words that form alliterations with:

ball	monkey
cup	puppy
donkey	nope

A silly story Ask your child to make up a silly story with as much alliteration as possible. Get the child started on:

a "fuh" story
a "ruh" story
a "muh" story

Play "Simon Says" with extra time.

FILL IN THE BLANKS, OR HELP ME MAKE UP A STORY

This game will reinforce, for the children word sounds and word sense (or nonsense) in the context of an oral story.

Our story You begin a simple story, asking the children to listen to the sound hints and chime in with the missing words, as in the following example:

"One morning a little girl woke up. She went downstairs to eat her b_____ ('breakfast' or 'bread' or whatever). She drank some j_____ ('juice,' etc.), and so on.

The stories can be easy or hard, short or long and as sensible or nonsensical as you like.

THE TACTILE SENSE, OR FEEL THE LETTERS

This game acknowledges the fact that some children learn best when they can touch the objects they are learning about. It seems to make abstract concepts more concrete.

Touch it Assemble or make some touchable letters. (Use alphabet blocks with raised letters. Or line up pebbles, sticks and acorns to make a few of the letters. Or do a combination of all three.)

Then hold your hand over each child's index finger and help him or her move it along the outline of the letters. Say each one as you go along.

PRECISION DRAWING, OR HANG ON TO THAT FELT-TIPPER

These games are designed to draw children's attention to the details necessary for distinguishing and making letters. They extend the small muscle and eye-hand coordination practice of the previous game group and apply it more directly to writing.

Coloring books Ask the children to color inside the lines of various pictures (holding the writing implement properly). This is probably the best occasional use of coloring books.

Draw shapes Have each child draw a large circle, then a square, then a rectangle, then a triangle and then several long horizontal lines. If necessary, you can draw them first in light pencil and ask him or her to follow your lines.

What's missing? Begin by making a simple incomplete drawing yourself, asking the children what is missing. Then have a child draw in that missing feature. Try the following:

- a face with no eyes
- a head with only one ear
- a square with one open side
- a circle with a gap
- a chair with one leg missing
- a TV with no dials
- a door with no doorknob

Color-in letters Draw big, thick letters, especially the ones that seem hard for the children. Then have them color them in, reviewing their names and sounds at the same time.

BASIC NOTES, OR SING HIGH AND LOW

Here children can learn that music consists of pleasant or interesting sounds arranged in some sort of order. Take turns imitating each other as you make some music in the following ways.

Sing high and low Sing a few individual high notes and ask your child to imitate you. Sing, "These are high notes." Do the same with a few medium-range and very low notes.

Then ask the children to sing a high note for you to imitate, then a medium one and then a low one.

Sing loud and soft Sing a simple song (such as "Twinkle, Twinkle, Little Star") very softly and then very loudly. Tell the children that music sung softly is "pianissimo" and music sung loudly is "fortissimo." Have them repeat the words. Have the children do both.

Tap high and low Fill several glasses to different levels with water. Show the children how to tap the side of each one of them with a fork. Then have them "play" each of "our new musical instruments."

Decide together which are, generally speaking, high, medium and low notes and arrange them in a row from low to high (left to right).

Then ask each child to make up a little song by tapping the glasses.

The scale Teach the children how to sing "do-re-mi-fa-sol-la-ti-do." Point out that our voices are also musical instruments and that each of these "scales" can also be called an "octave." Then teach the children to sing the scale backwards, too.

A tune Sing a few simple tunes for the children (a Sesame Street song, for example) telling them that these are "tunes." Then ask the children to sing you a simple tune.

BASIC RHYTHM, OR TAP ALONG

These games will show your child that most music has rhythm or "a beat." Besides teaching a little music, they are also good practice in listening and paying attention.

Pots and pans Collect several pots and pans of different sizes and materials and turn them over, drum-style. Also assemble two long-handled kitchen spoons.

Then ask the children to listen carefully. You tap out a simple three- or four-beat "da-da-dum-da." Now ask the children to repeat it. Then lengthen the musical phrase to the limits the children can handle.

Next a child taps out a "drum song" and you repeat it. Take turns. Then finish with a clattering, free-for-all chorus!

In time Find or sing a song with a simple beat, such as "Row, Row, Row Your Boat" or "Twinkle, Twinkle, Little Star." Show the children how to clap in time to the music, then tap a foot in time to it. Then they should sing a song so you can keep time.

ONCE UPON A TIME THERE WAS A VERY BAD KID

In these stories children can exult in what they can imagine.

Before you begin, emphasize the following points:

We call this child a "very bad kid" because we don't distinguish between boys and girls (this way, no one gets the idea that sex determines behavior).

We aren't bad like this kid. We all have bad thoughts--sometimes we'd like to throw each other out the window--and that's okay. We aren't bad because we don't do these things; we would never do them.

We all do naughty things sometimes but nothing like this child who does everything bad all the time.

Start off with something like this:

"Once upon a time the Very Bad Kid went to the grocery store and threw ten raw eggs at a nice old lady. The grocery store manager said that the kid had to leave. But the kid just laughed, opened a carton of milk and poured it over the manager's head." What else did the Very Bad Kid do?

A STORY ABOUT THREE THINGS

One child at a time chooses one thing to put in the middle of the floor (a truck, Mom's purse and a drum, for example). Then you each tell any story incorporating those three items.

RHYMES

Although many poems have no rhymes at all, the ones the children will see most often in your books do. So have everybody make up rhymes such as, "the goofy is woofy," "the goo-goo boy turned into a blue toy."

SIMILES AND METAPHORS

Take turns thinking of metaphors -- how one thing is like another -- which is another way to build a poem. Remind everyone to be wild, and begin with comparisons like the following:

the clouds today are like--(e.g., scoops of vanilla ice cream,
or spilt milk)
the grass outside is like--
that tree's bark is like--
the snow is like--
these cracks in the sidewalk are like--
those bushes are like--
that clock's face is like--
a crying baby looks like--
eating ice cream is like--
a dirty house is like--
our own carpet is like--
buttermilk is like--
our linoleum is like--
coughing is like--
this vegetable tastes as terrible as--

...or any other common object or experience.

Sing a song with extra time.

APPENDIX III
FACILITATOR'S ROLE FOR ROLE-TAKING TASKS

FACILITATOR'S ROLE FOR ROLE-TAKING TASKS

1. When bringing children to the research room say, "It's your time now to play the game in the back room" or "I need you to come with me now."

If necessary, ask for a teacher's assistance in getting the child to come with you. Do not ask the child or give the child a choice.

2. Room set-up. There should be a small table in each research room. Two chairs should be placed at opposite ends of the table. Do not let the children move their chairs.

In the mirror-room, the chairs should be perpendicular to the mirror so the child cannot see into the mirror. The child should sit with his back to the mirror. (This may be adjusted, if necessary, during the task which uses the different faces/feelings).

3. When entering the research room, say, "We are going to play three games today. I need you to sit in this chair and I will sit here."

Then proceed with the first task.

4. When finished with the tasks, give the child a sticker (when allowed) and say, "Thank you so much for helping me with this game."

Take child back to main room.

COGNITIVE ROLE-TAKING TASK (Score 0-10)

Start by saying, "I need some help thinking of some things I could do after I go home." Record their responses to the following questions.

1. "I don't like to get wet, would I rather play in a puddle or read a book?"

Let the child respond, then say,

"Why do you think I would rather _____?"

2. "I also like to stay in the house, would I rather watch TV or go swimming?" "Why do you think I would rather _____?"
3. "I like loud noises, would I rather bang on a drum or put together a puzzle?" Why do you think I would rather _____?"
4. "I do not like to get dirty, would I rather play in the mud or sing a song?" "Why do you think I would rather _____?"
5. "I am very hungry, would I rather play with blocks or ride a bike?" "Why do you think I would rather _____?"

(A point of 1 is given for each logical answer to the first four questions and for a justifying response on the 5th question, such as: "Neither is right," or "You might ride your bike so you can go get something to eat.")

The child is told: "We are going to play a pretend game, now. You pretend that today is your mother's birthday, and you are your mother."

6. "Now, if you were your mother, which would you rather have, a new washing machine, or a new swing set?"
7. "If you were your mother, which would you rather have, a set of blocks, or a new dress?"
8. "And if you were your mother, would you rather have a new dining room table or a toy wagon?"

9. "It is still your mom's birthday, and we are still pretending that you are your mother. Now, if you are your mother, would you rather have a set of new drinking glasses or a stuffed animal toy?"
10. "And if you were your mother, would you rather have a new set of crayons or a new toaster oven?"

(Questions 6-10 are given 1 point for every correct answer; the total number of possible points is 10.)

Any question may be repeated up to three times, if the child does not understand. Prompter questions may be asked, i.e., "What do you think your mom would like, drinking glasses or a stuffed toy?" or, "Answer me now." No response must be coded as NR (no response).

AFFECTIVE ROLE-TAKING TASK (For Boys -- Johnny) (Score 0-15)

Each boy will get the 15 questions about "the boy" and "Johnny;" and each girl will get the questions about the girl and Nancy.

Say: "Our (next/first/last -- whichever it is for that child) game is about a girl/boy named Nancy/Johnny."

Lay out the four pictures: Happy, Sad, Afraid, Mad side by side. "These are pictures of _____. Can you tell me how _____ feels in each picture? How does _____ feel in this picture?" (Point to a picture and help the child to identify the feeling--use appropriate facial and voice prompts. Continue with each picture like this.)

Read the questions as follows:

1. Show me how Johnny would feel if he received a new toy as a gift. Would he feel happy, sad, afraid or mad?
2. Show me how Johnny would feel if he wanted to watch TV and his mother said "No." Would he feel happy, sad, afraid or mad?
3. Show me how Johnny would feel if he lost his favorite toy. Would he feel happy, sad, afraid or mad?
4. Show me how Johnny would feel if he was alone in the woods at night. Would he feel happy, sad, afraid or mad?
5. Show me how Johnny would feel if he fell and hurt himself. Would he feel happy, sad, afraid or mad?
6. Show me how Johnny would feel if his mother said he had to go to bed and he didn't want to. Would he feel happy, sad, afraid or mad?
7. Show me how Johnny would feel if he was eating his favorite snack. Would he feel happy, sad, afraid or mad?

In questions 1 through 15, mark the emotion that the child pointed to, in the space provided on the score sheet. After each response, randomly mix the order of the faces up. When ready for question 8, remove the "afraid" face and again have the child

identify each feeling. (Point to a picture and have the child describe it--use appropriate facial and voice prompts. Continue with each picture like this.) The experimenter should make notes of any unusual responses, such as, the child always choosing the face at the far left.

8. Show me how another boy would feel if you shared a piece of your candy with him. Would he feel happy, sad, or mad?
9. Show me how another boy would feel if you took his pail and shovel away from him. Would he feel happy, sad, or mad?
10. Show me how another boy would feel if you spilled paint on his picture by mistake. Would he feel happy, sad, or mad?
11. Show me how another boy would feel if he had just finished building a tower of blocks and you knocked it down for fun. Would he feel happy, sad, or mad?
12. Show me how another boy would feel if he was getting on a tricycle and you pushed him off because you wanted to ride it. Would he feel happy, sad, or mad?
13. Show me how another boy would feel if you tossed some sand in the air and it accidentally got in his eyes. Would he feel happy, sad, or mad?
14. Show me how another boy would feel if he wanted to play with you and you wouldn't let him. Would he feel happy, sad, or mad?
15. Show me how another boy would feel if you wanted him to come and play with you. Would he feel happy, sad, or mad?

AFFECTIVE ROLE-TAKING TASK (For Girls -- Nancy) (Score 0-15)

Each boy will get the 15 questions about "the boy" and "Johnny;" and each girl will get the questions about the girl and Nancy.

Say: "Our (next/first/last--whichever it is for that child) game is about a girl/boy named Nancy/Johnny."

Lay out the four pictures: Happy, Sad, Afraid, Mad side by side. "These are pictures of _____. Can you tell me how _____ feels in each picture? How does _____ feel in this picture?" (Point to a picture and help the child to identify the feeling--use appropriate facial and voice prompts. Continue with each picture like this.)

Read the questions as follows:

1. Show me how Nancy would feel if she received a new toy as a gift. Would she feel happy, sad, afraid or mad?
2. Show me how Nancy would feel if she wanted to watch TV and her mother said "No." Would she feel happy, sad, afraid or mad?
3. Show me how Nancy would feel if she lost her favorite toy. Would she feel happy, sad, afraid or mad?
4. Show me how Nancy would feel if she was alone in the woods at night. Would she feel happy, sad, afraid or mad?
5. Show me how Nancy would feel if she fell and hurt herself. Would she feel happy, sad, afraid or mad?
6. Show me how Nancy would feel if her mother said she had to go to bed and she didn't want to. Would she feel happy, sad, afraid or mad?
7. Show me how Nancy would feel if she was eating her favorite snack. Would she feel happy, sad, afraid or mad?

In questions 1 through 15, mark the emotion that the child pointed to, in the space provided on the score sheet. After each response, randomly mix the order of the faces up. When ready for question 8, remove the "afraid" face and again have the child

identify each feeling. (Point to a picture and have the child describe it--use appropriate facial and voice prompts. Continue with each picture like this.) The experimenter should make notes of any unusual responses, such as, the child always choosing the face at the far left.

8. Show me how another girl would feel if you shared a piece of your candy with her. Would she feel happy, sad, or mad?
9. Show me how another girl would feel if you took her pail and shovel away from her. Would she feel happy, sad, or mad?
10. Show me how another girl would feel if you spilled paint on her picture by mistake. Would she feel happy, sad, or mad?
11. Show me how another girl would feel if she had just finished building a tower of blocks and you knocked it down for fun. Would she feel happy, sad, or mad?
12. Show me how another girl would feel if she was getting on a tricycle and you pushed her off because you wanted to ride it. Would she feel happy, sad, or mad?
13. Show me how another girl would feel if you tossed some sand in the air and it accidentally got in her eyes. Would she feel happy, sad, or mad?
14. Show me how another girl would feel if she wanted to play with you and you wouldn't let her. Would she feel happy, sad, or mad?
15. Show me how another girl would feel if you invited her to come and play with you. Would she feel happy, sad, or mad?

PERCEPTUAL ROLE-TAKING TASK (Score 0-6)

I. Material: black & white picture of man

"In this game we have some pictures. Here is just one card. It is a picture of a man. He is standing up. Now, let's turn the card around (that is, upside down). How does he look now?"

If the child does not indicate that the child is "upside down," or "standing on his head," or something equivalent, say,

"He is standing on his head, isn't he?"

Then right the card and say,

"Now he is standing up again. Can you make him stand on his head?"

After the child does so, take the card and turn it crosswise (that is, with the figure in lying-down position) in front of the child.

"Now you take the picture and show it to me so I can see the man standing on his head. Be sure to show it to me so I can see the man standing on his head."

(Score correct or incorrect)

II. Material: two cardboard cubes

Show one of the cubes to the child and ask him/her to name the four pictures, giving help when needed. Then present the second cube, carefully indicating that it is identical in all respects to the first.

"I am going to turn my block around (rotate it at random). Now you turn your block around so that you can see on your block the same picture that I am looking at on my block. Be sure to look at the same picture on your block that I am looking at on my block."

(Score)

After the child has turned his/her block, ask:

"What picture are you looking at?"

"What picture do you think I am looking at?"

Score 1 point for correct placement; 1 point for correct response to what am I looking at?

III. Material: cardboard with picture of puppy on one side and birthday cake on the other

Child sits opposite experimenter facing each other across a small table.

"I have a card here that has two pictures on it. On this side (demonstrate) is a little dog, or puppy, and on the other side (turn card over) is a picture of a birthday cake."

Hold the card so you see the cake and the child sees the puppy.

"In this game I am looking at a picture right now. Can you tell me what picture I am looking at."

If the child tries to come around to see, forbid it. If the child does not give the correct response, say:

"Tell me, what picture is on this side (the child's side) of the card? And what is on this side (experimenter's side)?"

If the child cannot answer the latter question, show him what is on the other side, then turn the card back to its original position.

"Now tell me what I am looking at right now."

(Score 1 point if correct response on any of the three tries)

IV. Material: cardboard with 3 colored pictures on each side, and colored piece of construction paper--folded in the middle

Experimenter and child sit facing each other across a small table.

"This time I have one card, and the pictures are the same on both sides. Here is an airplane, a teddy bear, and a clown; and on the other side they are just the same: an airplane, a teddy bear, and a clown (appropriate card turning and gestures throughout). Here is a piece of cardboard I have folded. First I will put the cardboard over the top of both sides of the picture."

Drop the two halves of the paper over the pictures, so that it masks the airplane and the teddy bear, both for you and the child. Only the clown is visible to you both.

"Now, can you tell me what picture I can see on my side of the card?"

Record the response. Correct it if necessary. This is a practice response.

"This time, I am only going to put the cardboard on my side of the card, and you see if you can tell me what pictures I can see."

Fold the paper back so that both halves are on your side, and masking only the airplane, leaving the teddy bear and the clown visible to you. Since the cardboard protrudes on both sides of the pictures, the child has clear perceptual cues for inferring exactly what pictures are covered. After the child responds, say:

"Now I am going to move the cardboard (drop it further, so that both airplane and bear are now covered). Can you tell me what I see on my side now?"

(Score 1 point for each correct response [maximum 2])

Child's Name _____
 Pretest _____ Posttest _____ Post/post _____

SCORING SHEET

Task 1. 1 point for appropriate answers; 0 points for inappropriate

- | | |
|-----------------------|---------------------|
| 1. Appropriate _____ | Inappropriate _____ |
| 2. Appropriate _____ | Inappropriate _____ |
| 3. Appropriate _____ | Inappropriate _____ |
| 4. Appropriate _____ | Inappropriate _____ |
| 5. Appropriate _____ | Inappropriate _____ |
| 6. Appropriate _____ | Inappropriate _____ |
| 7. Appropriate _____ | Inappropriate _____ |
| 8. Appropriate _____ | Inappropriate _____ |
| 9. Appropriate _____ | Inappropriate _____ |
| 10. Appropriate _____ | Inappropriate _____ |

Task 2. Check the child's response

- | | | | |
|-----------------|-----------|--------------|-----------|
| 1. Happy _____ | Sad _____ | Afraid _____ | Mad _____ |
| 2. Happy _____ | Sad _____ | Afraid _____ | Mad _____ |
| 3. Happy _____ | Sad _____ | Afraid _____ | Mad _____ |
| 4. Happy _____ | Sad _____ | Afraid _____ | Mad _____ |
| 5. Happy _____ | Sad _____ | Afraid _____ | Mad _____ |
| 6. Happy _____ | Sad _____ | Afraid _____ | Mad _____ |
| 7. Happy _____ | Sad _____ | Afraid _____ | Mad _____ |
| 8. Happy _____ | Sad _____ | Mad _____ | |
| 9. Happy _____ | Sad _____ | Mad _____ | |
| 10. Happy _____ | Sad _____ | Mad _____ | |
| 11. Happy _____ | Sad _____ | Mad _____ | |
| 12. Happy _____ | Sad _____ | Mad _____ | |
| 13. Happy _____ | Sad _____ | Mad _____ | |
| 14. Happy _____ | Sad _____ | Mad _____ | |
| 15. Happy _____ | Sad _____ | Mad _____ | |

Task 3.

- | | |
|----------------------|-----------------|
| I. Correct _____ | Incorrect _____ |
| II. <u>Placement</u> | <u>E's View</u> |
| Correct _____ | Correct _____ |
| Incorrect _____ | Incorrect _____ |
| III. Correct _____ | Incorrect _____ |

Answered on question number one _____ two _____ three _____

IV. Practice response: Correct _____ Incorrect _____

1. Correct _____ Incorrect _____

2. Correct _____ Incorrect _____

APPENDIX IV
LETTERS TO PARENTS

College of
Home Economics



Corvallis, Oregon 97331
United States of America

(503) 754-3551

January 7, 1987

Dear Parents:

Being able to take another person's perspective is an important skill in the social development of children. Preschoolers vary in this ability, but have been found to increase their "role-taking" skills through peer interactions. Given recent evidence of the importance of child/pet interactions, it may be possible that supervised, structured interactions with pets have a positive impact on the development of role-taking skills. A study to begin immediately at Orchard Street and Park Terrace Child Development Centers will investigate these issues.

The specific procedure of this study will begin by administering, individually, three role-taking measures which are designed for preschoolers and will be game-oriented. The children will then be placed into one of three groups: 1) a structured group experience on learning how to care for and handle pets, which includes interaction with a puppy; 2) a similarly structured group experience with no live animal; or 3) a group activity unrelated to pets or animal care. There is no foreseen risk or discomfort to the children or the puppies involved in this study. All puppies will have been vaccinated, wormed and certified by a veterinarian as healthy.

The children will be exposed to the three group conditions for ten to 15 minutes per day, for six weeks and then will be assessed for change in their role-taking skills. Three weeks following this post-testing, the identical measures will again be administered to see if any developments were maintained. During the three weeks, the children in the two groups without pets will be given an opportunity to have the same pet exposure as did the "puppy" group.

As was stated on the Admission Consent Form, you completed in the fall, all information collected will be coded anonymously and maintained in the confidential files. If you have any questions, need further information or have other concerns (i.e. allergies), please contact Cindee Bailey at 754-4765. Also, note that the puppies to be used in this research will need a home following the conclusion of the study (end of winter term). If you are interested in adopting a puppy, contact Cindee at the above number.

Thank you for your cooperation.

Redacted for Privacy

Cindee Bailey, Principal Investigator
Human Development & Family Studies

Redacted for Privacy

David Andrews, Ph.D., Department Head
Human Development & Family Studies

College of
Home Economics



Corvallis, Oregon 97331
United States of America

(503) 754 3551

January 14, 1987

Dear Parents,

Everyone seems excited about having the puppies come to the preschools; I am too. I would like to update you on the situation, as well as ask you a few questions.

First, the puppies won't be incorporated into the small groups until sometime next week. Secondly, I would like to clarify that only one third of the children in each preschool are assigned to the group which incorporates the puppy. The rest of the children will get the chance to get acquainted with little "Freckles" and "Jeckyl" (or whatever), after the six week curriculum intervention. You may need to encourage your children in their waiting. Third, I would like to ask that if any of you decide to change your pet status during this quarter, that you be sure to inform me. It can make a difference in the outcome of the research.

I have some questions I would like to ask you. Please fill out the attached questionnaire and return it to one of the teachers.

Thank you very much for all your cooperation.

Redacted for Privacy

Cindee Bailey

QUESTIONNAIRE

1. Do you own any pets? _____yes _____no
2. If yes, what kind of pet(s)? _____

3. How many of each kind of pet do you own? _____

4. How much does your child care for, or interact with the pet(s)?

Very much	Often	Some	Not very often	Rarely
1	2	3	4	5

College of
Home Economics



Corvallis, Oregon 97331-5109
United States of America

(503) 754-3551

May 26, 1987

Dear Parents,

I would like to tell you how much I appreciated your support during the animal/child research last quarter. I appreciated your patience when your children came home with paw prints on their new pants and stories of being kissed by Ginger or Farley. I think the teachers and the students all had fun.

All the children had an opportunity to play with the puppies. The children who were not originally in the puppy groups were exposed to the puppies this quarter after the data collection was over. Everyone got to experience feeding, petting and brushing the puppies (I don't think Farley will ever want to eat another marshmallow!).

Let me tell you the results of this research project. It was found that the children who were in the puppy groups significantly increased their scores on the affective role-taking task. Their scores on this task were higher than the other two groups (one group learned about animals without the puppy, and the other had activities unrelated to animals). This seems to indicate that children who are instructed in animal care and humane treatment, and exposed to a pet become more empathic - understanding others' feelings. Children who had pets at home did not show any differences in their role-taking abilities from those who did not own pets. This demonstrates the need to teach children about animals while having the children interact with them. Interaction, or ownership, alone does not seem to have the same effect on children's role-taking skills.

If any of you have any further questions about this research, I would be glad to talk to you. I can be contacted at 754-4765. Thank you again for your enthusiasm and support.

Sincerely,

Redacted for Privacy

Cindee Bailey

P.S. Ginger has found a wonderful home with one of the Orchard Street P.M. student teachers, and Farley has adopted me...
😊