

12-2005

Exploring Animal-Assisted Therapy as a Reading Intervention Strategy

Maria S. Kaymen

Dominican University of California

Follow this and additional works at: <https://scholar.dominican.edu/masters-theses>

 Part of the [Curriculum and Instruction Commons](#), [Educational Methods Commons](#), [Elementary Education and Teaching Commons](#), and the [Other Education Commons](#)

Recommended Citation

Kaymen, Maria S., "Exploring Animal-Assisted Therapy as a Reading Intervention Strategy" (2005). *Master's Theses and Capstone Projects*. 166.

<https://scholar.dominican.edu/masters-theses/166>

This Master's Thesis is brought to you for free and open access by the Theses and Capstone Projects at Dominican Scholar. It has been accepted for inclusion in Master's Theses and Capstone Projects by an authorized administrator of Dominican Scholar. For more information, please contact michael.pujals@dominican.edu.

Exploring Animal-Assisted Therapy as a Reading Intervention Strategy

Maria S. Kaymen

Submitted in Partial Fulfillment of the Requirements for the Degree

Master of Science in Education: Curriculum and Instruction

Division of Education
School of Business, Education and Leadership
Dominican University of California

San Rafael, CA

December 2005

Signature Sheet

This thesis, written under the direction of the candidate's thesis advisor and approved by the Chair of the Master's program, has been presented to and accepted by the Faculty of Education in partial fulfillment of the requirements for the degree of Master of Science. The content and research methodologies presented in this work represent the work of the candidate alone.

Maria S. Kaymen
Candidate

December 9, 2005

Madalienne Peters, Ed.D.
Thesis Advisor

December 8, 2005

Madalienne Peters, Ed.D.
Director, Master of Science in Education

December 8, 2005

Acknowledgements

My deepest appreciation goes to the participants in my study--the students, parents, and teachers who answered my questions with honesty and sincerity, without whom, there would be no study. I am grateful to you all for allowing me into your lives for a short time. Along those lines, I would also like to thank all the dogs and their owners who participate in the SHARE a Book program. The smiles and laughter you generated are etched in my memory. Thank you!

I would also like to thank the wonderful faculty at Dominican University of California, and especially Linda Sartor, whose conscientious editing improved my work time and again, and whose unending patience in answering my questions is appreciated beyond words. I would also like to thank Susan Roddy for reassuring and calming me, and finally, Madalienne Peters, whose initial workshop on passion sparked my interest and imagination.

The Marin Humane Society, who generously opened their program to me for intense study, should not go without due thanks. I would especially like to thank Darlene Blackman for not just allowing me to study her program, but for actively encouraging me to do so.

Many thanks are also due to my family for reading my many different drafts and to my boyfriend, Nick, who lost me for hours at a time. Thank you for your patience, support and love.

Table of Contents

TITLE PAGE	1
ACKNOWLEDGEMENTS	2
TABLE OF CONTENTS	3
ABSTRACT	5
Research Purpose	11
Assumptions	11
Animal-Assisted Therapy	12
In medicine and hospitals	14
In counseling and psychology.	14
In reading programs.	18
The need for effective reading interventions.	20
Summary	25
Methodological Issues and Directions for Further Research	25
Literature Review Discussion	26
METHODS	28
Sample and Site	28
Access and Permissions	28
Data Gathering Strategies	28
Data Analysis Strategies	30
ETHICAL STANDARDS	31
FINDINGS	32

Descriptions of site and individuals	32
Analysis of Themes	33
DISCUSSION	34
Summary of Major Findings	34
Comparisons with existing literature	37
Limitations of study	38
Implications for future research	40
Overall Significance of Study	40
REFERENCES	42
APPENDIXES	48

Abstract

This study is an examination of animal-assisted therapy in an attempt to explore the ways it may serve as reading intervention program for struggling readers. Due to the low rate of literacy in the U.S., children are often put into reading intervention programs where they are required to read to an adult; potentially creating anxiety that may act as a deterrent to reading regularly, and thus contributing to the condition of aliteracy, that is, possessing the basic skills to read yet having no desire to do so. The purpose of this qualitative study is to explore the ways in which remedial readers respond to the activity of reading aloud to a dog at the resource reading lab at a suburban, public, elementary school in Northern California. Through observations, interviews and surveys, the feelings, perceptions and beliefs of four students and their parents, and the two literacy assistants at the research site are determined.

Introduction

A new third grader sits with his basal reader open on the desk in front of him. It is his turn to read in the round-robin. He falters as he reads aloud and hears giggles from his classmates as he slowly decodes the opening phrase “Once upon a time...” After class, his teacher files the necessary paperwork to recommend him for reading intervention for the second year. His parents are happy to get him the help he needs, and so he is pulled out of class twice a week to read in the resource room. Once he is there he sits one-on-one with the reading teacher, diligently decoding basic texts. He makes so many mistakes and is corrected so often that he starts feeling inadequate and stressed about reading aloud. When asked to pick out another book, he walks as slowly as he can to the shelf. After fumbling through his task, he plays hangman with the other kids before heading back to his class. Today in resource he read two books, each only ten pages long. It was hard work and not fun. Even though he has some basic skills, he does not enjoy reading and shies away from it at every chance. This young boy is stigmatized by his peers and constantly corrected by his elders. He is stuck and needs something new.

As part of my job as a Humane Educator at local Humane Society, I had the opportunity to observe a new program called “SHARE a Book” where students read to dogs as part of an intervention strategy in a reading skills pull-out classroom at a public elementary school in Northern California. Before my visit, I was convinced that the children would be distracted by the dogs and thus spend less time practicing their reading. Talking with the two teachers in conjunction with my own observations, I discovered the opposite to be true. I found that students were more engaged, focused and alert while reading to the dogs than they were at other times. Both teachers were also surprised about how the children were reading more books during each session as a result of the program. One teacher joked that because the program is so popular,

more children at the school were going to have “reading difficulties” just so they could come to read to the dogs.

My observation and the short conversation with the teachers led me to wonder about the effectiveness of using animal-assisted therapy (AAT), specifically with dogs, with struggling readers; how the children would respond to the animals as they were reading and whether it would increase reading skills over time. Some questions I pondered were: How does canine-assisted therapy affect the students? Can this type of program be a reasonable intervention? How do the children respond to the dogs after the initial novelty wears off? What are the perceptions the parents have of this program? Might AAT with dogs in a reading lab lead to an increase in reading skills? From just the one day of observation, I had already seen that the students responded positively to the dogs. How might this positive interaction be utilized to increase the students’ reading abilities?

According to the National Adult Literacy Survey (1994), less than 5% of adults in the United States are proficient at the highest level of Document Literacy. Document Literacy refers to the readers’ ability to demonstrate the skills necessary to process information from documents, which “requires the reader to search through complex displays that contain multiple distractors [sic], to make high-level text-based inferences.” Thirty-seven percent of fourth grade students are reading below the basic level, and less than one third of 8th graders are proficient in reading (NAEP, 2003). These statistics show that not all children are becoming fluent readers and many make the transition into adulthood as less than solid readers.

Along with the issue of illiteracy comes a confounding dilemma called aliteracy (Alvermann, 2003, p. 1). Aliteracy, the ability but not the desire to read affects many children.

Researchers discuss possible reasons for this problem, for example the increase in television watching or video game playing, but all agree that the issue must be addressed. Aliteracy then is an area that requires the focus of teachers, parents and literacy specialists, for as we know, students who enjoy reading become more fluent and confident readers.

The reading demands on students often force them into reading intervention programs. As described in the hypothetical example in the opening paragraph, the student appeared frustrated and anxious while reading aloud to classmates or adults. The traditional forms of reading intervention strategies simply do not reach all struggling readers. The requirement of reading aloud to adults can be intimidating and stressful to a reader who has difficulty reading anyway and is challenged by the material. Studies show that reading aloud increases blood pressure and creates undue stress in a child. It would be wise to find other ways to reach these children.

Many reading teachers would say that fluency is related to reading frequency: the children who read more are in a better position to become fluent readers, while the children who lack adequate practice reading will tend to stagnate in their reading ability. Because all children can benefit from more time spent reading, reading intervention programs need to provide activities that promote practice in the craft of reading in a way that feels successful and does not increase stress in the students. New and innovative programs are needed to reach those children who have difficulty mastering reading and who are unmotivated due to the anxiety they feel about their own abilities. If reading difficulties are addressed in an engaging way, students may be excited about reading, thereby combating aliteracy and reading more often, thereby addressing fluency, and may eventually show increase in overall reading skills and comprehension.

Animal-assisted therapy (AAT) is a unique form of treatment in which health or human service personnel use animals to meet specific goals, which are to increase physical, social, emotional, and cognitive well being and functioning, as part of an intervention process with a client. AAT has been used in nursing homes, hospitals, psychotherapy sessions, and special education classrooms. Animals meeting the rigorous criteria to become an AAT partner range from dogs, cats and fish to chickens, horses, birds and rabbits.

Research on AAT cited in the next chapter indicates that being in the presence of animals greatly reduces anxiety and significantly reduces blood pressure and heart rate. The theory that humans have an innate bond with animals provides the foundation upon which AAT is built. Many participants in these studies showed an improvement in self-confidence, sociability, and recovery from illness or surgery. They have claimed to feel more enthusiastic and safe, and seem to have better morale as a result of interacting with animals.

A few canine-assisted reading programs exist across the country. Libraries, classrooms and after-school clubs sometimes welcome animal-assistance therapy dogs into their facilities. One such program recently started at a suburban elementary school in Northern California. The program is called SHARE a Book and is conducted in a pull-out reading class with two literacy assistants. The goals of the program include inspiring and exciting children about the joys of reading, and to encourage them to read more often and with more confidence than they might have otherwise. Among these socio-emotional goals, the program also hopes to improve reading ability and to strengthen its students' academic achievements. The program is sponsored and directed by the local Humane Society and has successfully completed one semester. Although the program's long-term success has yet to be determined, it seems to be enjoyed by all the students, as well as the faculty and volunteers, who bring their dogs into the classroom.

Animal-assisted therapy has been used for many years in psychotherapy and with the elderly and there has been research on its effectiveness in those contexts, but very little research was located on the use of dogs in a reading intervention program. Dr. Ben Granger runs the H.A.B.I.C. (Human-Animal Bond in Colorado) program. H.A.B.I.C. works in elementary schools with children using AAT for social and emotional needs. They do not have a reading program like the one mentioned above, but have a very successful AAT program. He explained in an electronic mail that, “There is very little in the literature regarding animal-assisted therapy as a reading intervention strategy...I know of no research/evaluation that has taken place [on the topic]” (May 9, 2005).

From my own personal observations of the SHARE a Book program and from the articles and studies cited, I believe that animal-assisted therapy (AAT) motivates struggling readers and consequently increases reading achievement. Children might find it easier and more fun to read aloud to a dog than to an adult, and because of this, they might be motivated to read more, and more often even in their reading classroom. Also, because AAT has been shown to reduce anxiety, I believe that students working directly with dogs might be less anxious about reading aloud. Not only do we need new and innovative reading strategies, we need research to determine to what extent any new strategies are effective. If the research shows that AAT as a reading intervention strategy is successful, then more resource and reading teachers, principals, and reading consultants might consider implementing such a program. Furthermore, the idea of using AAT in reading may inspire educators to think beyond the traditional strategies and begin to explore other new ways of supporting the nearly 40% of children who read below a basic level.

Research Purpose

The purpose of this small scale qualitative study is to observe and explore the ways in which the remedial readers respond to reading aloud to dogs as part of an animal-assisted therapy session at the resource reading lab in a suburban elementary school. In addition to making observations, determining the perspectives held by the students, teachers and parents of such a program is the focus.

Assumptions

I believe that an animal-assisted therapy session with a dog will be perceived as a good reading intervention program. From the reading and initial explorations I have made, it seems like this innovative strategy would indeed inspire struggling readers to read more often and perhaps even to become excited about the act of reading. The literature shows that just being in the presence of a dog, or other animal, reduces anxiety, so I assume it would do the same for an apprehensive reader. In my experience, children respond to animals with joy, excitement, passion and love. For this reason, and for all the reasons stated in the literature review, as well as my own personal observations of the SHARE a Book program, I believe AAT is a reasonable and successful reading intervention strategy. I also assume that there will be long-term benefits of such a program, but that is beyond the scope of this study.

Review of Literature

The purpose of this review of the literature is to describe and explore what the literature already says about AAT, and to consider the possibility of using dogs in a reading intervention program. The literature reveals that AAT has positive physical and emotional effects on clients in the medical and counseling settings. Reading theory suggests that lowering anxiety in struggling readers may help them be more open to the reading skills being taught and increase their efficacy and reading ability. Overall, human interactions with animals reduce stress, anxiety and blood pressure, so it would seem that a reading intervention program using AAT would support reluctant readers and increase their reading skills and ability. Little literature documents the actual effects of using AAT in a reading program, the literature that does exist in both AAT and reading intervention have been reviewed and this paper attempts to draw some tentative conclusions or understandings about the feasibility of applying AAT in a reading program.

This literature review is organized into three main parts: (1) current animal-assisted therapies, where and how they are used, and the implications of these programs; (2) literature on current learning-to-read strategies including Stephen Krashen's theory of the Natural Approach to language and Albert Bandura's theory of self-efficacy, and discuss how these relate to reading intervention and fluency; (3), the possibility of a link between the literature on learning how to read fluently and the literature on animal-assisted therapy.

Animal-Assisted Therapy

The Delta Society (n.d.), a foundation devoted to the human-animal health connection, defines animal-assisted therapy (AAT) as:
a goal-directed intervention in which an animal meeting specific criteria is an integral part of the treatment process. AAT is delivered and/or directed by a health or human services provider

working within the scope of his/her profession. AAT is designed to promote improvement in human physical, social, emotional and/or cognitive functioning. AAT is provided in a variety of settings and may be group or individual in nature (no page number).

Animal-assisted therapy is based in part on the theory of biophilia, first introduced by Wilson and Kellert in 1993. The theory explains how all humans are innately drawn to nature and other living beings. Melson (2000), writing on the topic of the human-animal bond, quotes Wilson to describe biophilia, “the [human] biologically based attraction for nature and all its life forms... a tendency to impute worth and importance to the natural world.” According to Wilson, humans have an innate affinity for animals and receive signals of comfort and safety when near them. The belief that animals offer social support lies at the foundation of AAT. Humans who have a lack of social support often suffer from loneliness, and the opposite is also true, humans who have a companion, be it animal or human, benefit from that relationship (Serpell, 2000, p. 15). AAT works because of the innate bond that humans have with animals, often referred to as the human-animal bond (HAB).

The use of AAT has been shown to reduce stress and anxiety and promote relaxation in the areas of medicine and counseling. Various studies have portrayed the positive effects of AAT on both the health and emotional well-being of patients and clients, as well as the staff of the different organizations that host animal-assisted therapies (Burton, 1995; Moody et al., 2002; Nebbe, 1991). This paper goes into more detail about these studies and considers similar factors associated with learning to read. Articles that have provided evidence of the benefits of AAT in support of reading programs are reviewed, but the gap in systematic research specifically about AAT used in reading programs is identified.

In medicine and hospitals

In the field of medicine, there have been numerous studies examining the effects of animals on the physiological health of humans. In one such landmark study, Friedmann and Thomas (1995) concluded that patients suffering an acute myocardial infarction who owned animals, and especially dogs, were in better health one year afterwards compared to non-pet owners having had the same condition (p. 1217). The study concluded that patients with companion animals had lower anxiety levels and that their pets offered them social support and comfort during their recovery (Friedmann & Thomas, 1995, p. 1217).

Along with reducing anxiety, human interactions with animals have been shown to reduce blood pressure (Cusack, 1984, p. 34; Katcher et al., 1984, pp. 14-21; Nagengast, 1997, pp. 323-330; Odendaal, 2001, p. 4999) and to have positive effects on cardiovascular health (Friedmann, 2000, p. 43; Friedmann & Thomas, 1995, pp. 1215-1217; Wilson, 1991, p. 487). Nagengast (1997) looked at the effects of children's interactions with animals during a routine physical examination (pp. 323-330). The findings showed a significant decrease in blood pressure and heart rate, and an overall reduction in anxiety in the participants of the study when they were in the presence of a dog.

It seems the use of animals to reduce blood pressure and stress, and promote relaxation could be helpful in the classroom as well.

In counseling and psychology.

Researchers have also studied the use of animals, and especially dogs, in psychotherapy sessions. Animals have been used in both adult counseling therapy and in elementary schools with children. The findings have agreed in either case: animals have a de-arousing, relaxing and stress-buffering effect on humans (Burton, 1995; Friedmann, 2000, p. 52; Friedmann & Thomas,

1995, pp. 1215-1217; Hart, 2000, pp. 59-76; Lieber & Fassig, n.d., pp. 13-14; Serpell, 2000, p. 15; Wilson, 1991, pp. 485-487). One such study, conducted by Wilson (1991), found that college students who interacted with a dog showed a significant reduction in their state or situational anxiety (p. 485). Her findings suggest that regardless of the actual type of interaction with a dog, the contact promotes a state of anti-anxiety. She states that the use of a dog to reduce anxiety and provide comfort and support with “at-risk” populations might be a valuable form of treatment (Wilson, 1991, p. 487). Indeed, many therapists and counselors do use a dog, or other animal, with their clients and students who are “at-risk.”

Using a dog in a counseling program at the elementary school level has also been shown to have positive effects on students’ abilities to communicate with the counselor. Both Nebbe (1991) and Burton (1995) used dogs in their counseling sessions with success. Animals, and especially dogs, in the therapy session can be most beneficial to children who suffer from issues of trust with adults (Burton, 1995). The animals act as “social lubricants” (Cusack & Smith, 1984, p. 41; Hart, 2000, pp. 66-68) easily allowing a child to socialize with the counselor or fellow group member (Hart, 2000, p. 66; Hunt et al., 2001, p. 253). Students were more likely to open up to the counselor when there was a dog or other animal present, apparently because the animal provided a “safe atmosphere for sharing” where there is no judgment (Chandler, 2001, p. 3). In one case, an almost non-verbal child quietly started talking to fish in a tank in his therapist’s office. He would talk to the fish and speak through them to discuss problems he was experiencing at home. The counselor was able to work with this child because the child felt comfortable enough to express himself to the fish (Nebbe, 1991). In the area of reading, this opening up might help a child feel more at ease reading aloud. If he or she feels comfortable talking to adults when a dog is present then he or she may feel comfortable reading aloud when a dog is present. The “safe atmosphere” the dog provides allows for the student to make mistakes

in his or her reading. Without the judgment that may come from peers or adults when a child fumbles over words or sentences, students may be able to read more fluently and with more confidence.

Nebbe (1991), one of the leading voices on the positive effects of AAT on counseling patients, offers many anecdotal accounts of how using animals in her sessions has helped to establish rapport and trust between her clients and herself. She notes that a bond seems to exist between the client and herself due to the mutual relationship they share with the animal. This bond or bridge helps the patient open up and become more expressive with the counselor (Parshall, 2003, pp. 47-56). Clients appear more likely to express themselves directly to the animal because it will not judge them, will love them unconditionally and will act as a confidant (Burton, 1995; Chandler, 2001, p. 7; Cusack & Smith, 1984, p 41). The potential for increased rapport between student and reading teacher might be another factor in AAT supporting students to learn to read.

The following case (Nebbe, 1991) about a second grader named Rodney illustrates the effectiveness of using a dog to support a child's emotional state:

It was impossible to define the trigger that sent [Rodney] into a closed world of his own, refusing to speak to anyone, to do anything, to move! After one of these "spells", the day was lost. It seemed impossible for him to recover. When this behavior occurred, the teacher would move him to the office. He would remain there, unresponding [sic], for hours. No one, including me, seemed to be able to enter his world. One day Peter, my dog, was at school with me. The principal informed me Rodney was in the office again. Peter and I went in to see him. Rodney was sitting at a table with his head buried in his folded arms. Peter nosed Rodney's elbow. There was a pause. Then Rodney slid off his chair onto the floor beside Peter. His folded arms slid around his neck, and he buried his

head into Peter's coat and sobbed. I waited and Peter waited, sharing an occasional nose or lick with Rodney. Nearly 10 minutes passed before Rodney withdrew and looked up at me and smiled. I asked, "Can Peter walk back to class with you?" He nodded. The teacher reported the rest of the day went well. We were able to build on the positive experience to restructure Rodney's behavior in the future (no page number).

If simply being in the presence of a dog can make an emotionally troubled child relaxed, it might similarly affect children having difficulty learning to read. Rodney, the young boy in the previous story, seemed to feel he could let down his guard. It is possible struggling readers might let down their guard as they read to their therapy dog, making reading practice time much more enjoyable and comfortable.

Furthermore, interactions with animals might positively affect children with Attention Deficit Hyperactivity Disorder (ADHD). Lieber & Fassig (n.d.) studied an angry, depressed, suicidal child diagnosed with ADHD. Although the outcomes were not monitored over a long time period, immediate changes resulted from his interactions in a canine-assisted therapy program. Short-term observations were that the child had positive social interactions with peers, higher levels of motivation, and increased attention and focus on tasks (Lieber & Fassig, n.d, p. 14).

Cusack and Smith (1984) discuss seven ways that animals work positively on the psychological factors of those in need. Animals provide: (1) companionship; (2) love and affection; (3) safety, security and protection; (4) incentive to keep busy; (5) reality orientation; (6) humor, morale and ego strength; and (7) fun and entertainment (pp. 33-40). Although this landmark book is titled Pets and the Elderly, these seven factors could arguably be applied to children in school. As has already been mentioned, many of these benefits have been observed in therapeutic sessions with children.

In reading programs.

Before starting my job at the local Humane Society, I was volunteering with the coordinator of the SHARE a Book program mentioned earlier. She described the program and introduced me to the Intermountain Therapy Animals organization, which is where the idea of using AAT as a reading intervention began. My interest was immediately sparked and upon my hiring, I made it a point to visit the SHARE a Book classroom. I was so struck by the potential benefits of such a program and so taken with the enthusiasm these children were expressing that I wanted to know more about similar programs and their documented results. I was disheartened to find no research either in progress or completed on this specific topic.

In 1999, a registered nurse began what is now referred to as the R.E.A.D. (Reading Education Assistance Dogs) program, run by Intermountain Therapy Animals (ITA). The purpose of the program is to encourage children to lower their inhibitions about their limitations concerning their reading ability while reading to a dog, and thereby to improve their literacy skills. They piloted the program in 2000 at an elementary school in Salt Lake City, Utah. Though not an official research study, according to the ITA's handbook (2003-2004), the facilitators noticed that the children produced the following results:

- rapid increases in reading comprehension and skills (as much as two to four grade levels);
- demonstrated greater confidence and self-esteem in their relationships with classmates;
- completed and turned in their homework assignments more frequently;
- were absent and/or tardy much less often;
- demonstrated improved hygiene; and
- developed strong, empathetic relationships with the animals.

Upon contacting Intermountain Therapy Animals and asking if they had any information about either quantitative or qualitative studies conducted on the topic of using AAT in reading to improve literacy, they responded that they were unaware of any such study in the field.

In the review of the literature, any quantitative or qualitative research on dogs used in a therapy program with struggling readers is sought. Both the PsychINFO (which contains information from 1887 to the present) and ERIC databases were searched using the following keyword searches: “animal” and “reading”; “therapy” and “reading” and dog*”; and “read” and “dog*”. One article on the topic was found describing an animal-assistance literacy program in public libraries (Hughes, 2002). The author explains how the program works and mentions Sandi Martin, the nurse who designed the R.E.A.D. pilot at Intermountain Therapy Animals. Hughes goes on to note that these library reading programs do not use an “evaluative tool” to measure the reading success of its participants, but quotes librarians who report that the children are “excited,” “have a good time,” and “want to come back” when they are involved in this type of program (p. 329). Although this article helps illustrate the delight of children reading to animals, it fails to provide a systematic analysis of a reading intervention program.

The researcher e-mailed Alan Beck, a leader in the field of animal-assisted therapy, to ask him if he was aware of any studies on reading with therapy dogs. He pointed to the H.A.B.I.T. (Human Animal Bond in Tennessee) program at the University of Tennessee, College of Veterinary Medicine as a possible source. H.A.B.I.T. “sponsors programs which foster pet visitation to nursing homes, assisted-living residences, retirement centers, mental health centers, residences for children with special needs, rehabilitation facilities, [and] hospital settings” (University of Tennessee College of Veterinary Medicine, n.d.) but does not have a program using dogs to increase reading skills in elementary school children. There is an organization in Colorado called H.A.B.I.C (Human Animal Bond in Colorado) who states that their AAT

programs help children with reading readiness but they provided no research on their website to support these claims (Colorado State University, n.d.). I sent a letter to the H.A.B.I.C. program to request further information and documentation of their practices and received no response.

Although no systematic research on the implications of reading to a dog as an educational activity, there are articles in mainstream media outlets that discuss the advantages and successes of such programs. For example, the New York Times reported that a library program in Connecticut uses dogs to motivate children to read (Polk, April 13, 2003). Polk believed that in this case, without being judged on their pronunciation and grammar, children are able to gain confidence in their reading ability. Articles were found in the Sacramento Bee (2003), The Oregonian (2003), The Herald-Dispatch of West Virginia (2003), The Leaf Chronicle of Clarksville, Tennessee (2003), that described reading programs in libraries or YMCAs and a few other articles specifically on the Intermountain Therapy Animals R.E.A.D. program. The articles describing the community programs generally reported the enthusiasm and excitement of the children involved. Many times children were quoted as saying reading was fun or that they now liked to read due to their participation in these programs.

The need for effective reading interventions

As reported previously in this paper, in 2003, 37% of all 4th grade students in the United States were reading below the basic level, which is demonstrating an understanding of the overall meaning of what has been read and making simple inferences and connections with the text and the readers' own experiences). Only a quarter of these students were reading at the proficient level, which is demonstrating an overall understanding of the text by providing clear inferential and literal information, as well as extending the ideas in the text by drawing conclusions, and making connections to the readers' own experiences (NAEP, 2003). A report

which studied a representative sophomore class to show reading data trends in the U.S., noted that only about 10% of the sophomores in the study were proficient at the highest level of reading proficiency (able to make complex inferences beyond the authors main point). That means about 90% of the students showed no mastery in complex inferencing at the sophomore level (Ingels & Scott, 2002, p. 12). As I also stated previously, in a 1994 report of the adult literacy levels in the U.S. (the most recent of its kind), less than 5% of adults scored at the highest level (level five requires the readers to search for information in dense text which contains a number of distractors) on the National Adult Literacy Survey (1994). According to the California Reading Special Education Task Force (1999), 30 to 40 percent of all school children will have “significant difficulty” as they learn to read. These statistics point to the urgent need to further address reading instruction in the elementary schools in the United States.

The California Reading Special Education Task Force (1999) noted that applying intervention strategies to struggling readers early in their academic career can effectively increase the reading skills in nearly 90% of these readers. Current reading intervention programs and strategies do reach some students, but not all. It is critical to find new and innovative ways to address the reading abilities of struggling youth before they are referred to special education as well as once they have been referred (Montgomery & Moore-Brown, 2003, p. 22). Reading theories.

Although Krashen’s Affective Filter Hypothesis (1983, p. 37) was developed for the second language learner, its main principle can be applied to any reading classroom. The principle is as follows: the higher the anxiety levels and the lower the self-esteem, the higher the affective filter and the more difficult it will be for a child to learn a new language. From this, one can infer that the opposite is also true: the lower the anxiety levels and the higher the self-

images, the easier it will be to learn a new language. Positively modifying the affective variables (high anxiety and low self-esteem) will allow for input (information) to be internalized. The lower the affective filter the more “open and receptive” to input is the learner.

In order to lower the affective filter and increase relaxation in the student, the teacher or facilitator must make sure that: (a) all attempts [at reading] are rewarded, (b) the teacher or facilitator is not overly concerned with correctness, and (c) the teacher or facilitator must work with interesting inputs (Krashen, 1983, pp. 59-60). If the teacher is successful in lowering the affective filter and creating a safe and relaxed environment, as well as providing engaging and exciting material, students will have a better attitude about themselves and more easily and effectively learn how to read. It is possible that having a student read aloud to a dog rather than an adult is one way to assure that all three criteria are met.

Once a child’s anxiety level is lowered, it is important to raise his/her self-esteem or self-efficacy. Albert Bandura has extensively studied efficacy as it relates to child development and has determined that the way children view themselves impacts their academic functioning (1996, p. 1206). He defines this perceived self-efficacy as “people’s beliefs about their capabilities to exercise control over their own level of functioning and over events that affect their lives. Efficacy beliefs influence how people feel, think, motivate themselves and behave” (p. 118). Therefore, children who suffer from low self-efficacy feel threatened by difficult tasks and so their negative self-perception negatively affects their academic success. Conversely, a child’s positive self-image will increase his/her aspirations and lower the feelings of futility, which will have a positive influence on academic achievement.

When we apply Bandura’s theory about self-efficacy to learning how to read, we may see that an increase in the child’s self-perceptions of his/her abilities as a reader will influence his or her success in reading and that anxiety-inducing scenarios can negatively affect that same

reader's success. Because self-efficacy influences how students will achieve academically, intervention strategies for struggling readers might well include fostering increased self-esteem as well as decreasing anxiety producing settings (Schunk, 2003, p. 170). Schunk (2003), a leader in the field of efficacy as it relates to reading, also notes that children receive efficacy information from a variety of sources: parents, teachers, coaches, and peers. Furthermore, he found that the heart rate and anxiety levels increased while performing (or anticipating the performance) of tasks. He states that "experiencing decreased anxiety may raise self-efficacy" (Schunk, 2003, p. 161).

Two studies on adults show that there is a positive correlation between reading aloud and an increase in the blood pressure and heart rate of the reader (Naring, et al., 1996, abstract; Ogawa, 2001, abstract). Another study found the link between reading aloud and an increase in blood pressure on elementary school children (Thomas, et al., 1984, abstract). As many of us can attest, public speaking, which I believe to be akin to reading aloud for a child, can create extremely stressful scenarios. Given Bandura and Schunk's findings above, that reducing stressful and anxiety producing situations can help foster academic achievement, it seems that educators implementing reading programs might be interested in more innovative strategies that accomplish this task. One study by Friedman, Katcher, Thomas, Lynch and Messert (1983) noted that, "The presence of the dog resulted in lower blood pressures both while the children...were resting and while they were reading" (abstract). It may be that teachers can incorporate reading to a dog to keep blood pressure and heart rate low while also giving the child much needed practice.

Fluency and comprehension are important components to reading instruction and therefore reading ability. Fluency is described by the National Assessment of Educational process (NAEP) in an article written about oral fluency, as the "ease or naturalness of reading"

(White, 1995, p. 2). There is agreement amongst authors on the topic of reading that fluency is promoted through practice or repeated oral readings (Eber & Miller, 2003, p. 31; Hasbrouck, 1999, p. 1; Osborn & Lehr, 2003, p. 8; Pang et. al, 2003, p. 20) and even paired oral reading (Osborn & Lehr, 2003, p. 10-12). Those students who read more, and more often, increase their fluency (Pang et. al, 2003, p. 20). Because the literature points to the effectiveness of practice and repeated oral readings to help increase reading ability, we might be wise to consider creating reading intervention programs which encourage students to read more.

It is also possible that AAT in reading will engage aliterate students as well as those simply struggling with the material. As I mentioned earlier, aliteracy is defined by Donna Alvermann (2003), the leading voice on the topic, as having “the capacity to read but electing not to do so.” She calls it “one of the most vexing problem facing...educators today” (p.1). This problem, where students have the skills and ability to read but simply do not enjoy it and have no desire to do it, is robbing students of their chances to become lifelong readers. The love of reading is not innate in all children and for those students who do not already love reading, teachers need to find ways to engage them.

Noyes (n.d.), another author in the field of aliteracy, discusses eight items every reading curriculum should include: *time* to explore reading, *modeling* the craft by parents and teachers, *listening* to adults read, *talking* with other students about reading, *experiences* the students can relate to, *writing* in a variety of ways, opportunities for *expression*, variety in the material and *success* along the way (p.316). In a program, which includes these strategies students are more likely to become interested and enthusiastic readers. A program like AAT, where students are reading to a dog, addresses some of these criteria, by providing wonderful experiences for children and hopefully a feeling of success as the child reads more. It could be said then, that

AAT in the reading classroom might work to strengthen literacy skills while also addressing the problem of aliteracy.

Summary

Animal-assisted therapy succeeds in reducing anxiety and blood pressure, thus leading to an assumption that the child's "affective filter" will be lowered, and, in turn, input will more easily be internalized (Krashen, 1983, p. 37). From personal observations and from the articles that quote children as saying they think reading to a dog is fun and exciting, employing AAT with a dog will increase their enjoyment of reading and work to reduce the problem of aliteracy. If reading to a dog is fun, than it is reasonable to believe that a canine-assisted reading intervention program would likely encourage the students to read more, which will increase their reading fluency. According to the listed assumptions, it is possible that animal-assisted therapy used as a reading intervention strategy will have positive effects on the reading ability and attitudes of struggling readers.

Methodological Issues and Directions for Further Research

Because very little literature exists on using AAT in a reading program, research is needed to determine weaknesses and benefits of administering AAT for struggling readers. If a positive connection can be made, implementing canine-assisted reading intervention programs can help address the literacy needs of the nearly 40% of children who the California Reading Special Education Task Force (1999) states will have "significant difficulty" learning to read. Not only would instituting an innovative intervention program address struggling readers, but the presence of an animal on school campuses might have other far-reaching benefits for all those who come in contact with the animal, including the facilitators of the program.

Beck and Katcher (1984, pp. 414-421; 2003, pp. 79-93) state that further quantitative and qualitative studies are needed to determine the effectiveness of AAT in general. Based on the review of the current literature, a longitudinal study on the benefits of the human-animal bond in a reading program to be conducted on elementary school campuses is recommended; however, constrained by time, this researcher will be conducting a short-term study instead.

It would be worthwhile to determine ways that AAT used as a reading intervention strategy might affect the reading achievement of children. How might reading to a dog increase the quantity of pages or books read, the feelings of comfort reading aloud, and the overall reading ability of struggling readers? Unfortunately, that quantitative pursuit will be left to someone with more time, and the purpose of this project is exploring the reading practices of struggling readers in an AAT program; to observe and determine, through surveys, interviews and observations how the students, teachers and parents feel about reading aloud to a dog as a reasonable reading strategy.

Literature Review Discussion

From the research, one can see that animal-assisted therapy (AAT) has a positive impact on people who struggle either physically or emotionally. The literature has shown that AAT helps reduce blood pressure, anxiety and generally increase a feeling of connection and safety. One can also note that children become better readers when they feel less inhibited, and that their reading fluency and ability increases with practice. Because of this, using AAT with struggling readers may lower their anxiety level, increase their motivation and self-confidence. It is also possible that because they are enjoying the activity and will want to read more, the program will ultimately increase their reading ability and decrease any apparent illiteracy. This paper looks at how the application of canine-assisted therapy as an innovative reading intervention in the

elementary school might positively affect the attitudes of struggling readers even within a short period of time. And looks at how the children respond physically and emotionally to reading aloud to a dog.

Methods

Sample and Site

Four third grade students, three male and one female, were studied in the reading lab at a suburban elementary school in Northern California. This site was chosen because it is where the SHARE a Book program is being piloted. The study of this particular site helped to begin to generate a theory about an emergent reader's experience of reading aloud to an animal-assistance therapy dog as a unique type of reading intervention.

Access and Permissions

Before beginning the research, a letter was sent to the principal of the school asking for permission to access the study site. Permission from the local Humane Society was granted to observe their program at this particular site. Six letters were mailed to the parents asking for proxy consent for their child to participate. Both literacy assistants were asked to sign a consent form if they chose to participate in the study. A letter was also mailed to all four of the participating families, along with the survey, outlining and describing the project.

Data Gathering Strategies

A non-participant observation was conducted on one child who is currently in the program (see Appendix); Semi-structured, audio-taped interviews was conducted with all four students and with both literacy assistants (see Appendixes); and responses were gathered from open- and closed-ended questions on questionnaires from participating families of two of the students in the study (see Appendix).

The sample size is four students at one research site. Originally six families were contacted for approval, however, only four responded. The intention is to study a small number

of students so attention can be focused on the observations and obtaining in-depth information. The researcher intended to study two children every other Thursday over a five-week period, starting the first week when the fall program began, however, the program did not begin until October 20th, so only one day of research was possible.

The study of these children consisted of gathering both objective and reflective field notes to study their reading behavior and reactions to the dogs, to gather information that a child might not be able to verbalize from body language, and to broaden an understanding of how such a program runs. Along with observations, simple interviews were conducted with the children to determine their feelings about reading to dogs, whether they enjoy reading to a dog more than reading to an adult and why they might feel this way. These interviews were semi-structured, so answers were consolidate between all four students. Also, each student was asked an open-ended question as part of the interview so that they were able to say whatever they wanted to regarding the dogs and the program.

Before the observation in the classroom, both literacy assistants who run the reading lab were interviewed. Semi-structured, audio-taped interviews were conducted, to determine their impressions about how the program has affected their students. Among other questions, they were asked for anecdotal evidence on the overall success or failure of the program. The researcher was especially interested in: (a) hearing stories about children who have greatly benefited from the program; and (b) exploring with the reading teachers the possibilities for why this might be.

For a more holistic view of each child's experience, the perspective of one of the families of these students was obtained. The varied questionnaire was able to ascertain the thoughts the parents have on the success or failure of the program, their feelings about the animal-assisted therapy program and why they feel the way they do. The questionnaire gathered information on

the thoughts and impressions of this family to explore how they view this particular reading intervention strategy.

Data Analysis Strategies

The information obtained was examined and analyzed in order to find emerging themes. The data was initially read several times to gain a general sense of the topic from the perspectives of the parent, teachers and students. After the initial readings, the data was categorized into broad segments, which were refined in the next step. This process of coding the research allowed general themes about the use of animal-assisted therapy to emerge.

After the first round of coding and categorizing, these themes were review to assure that it came directly from the research and was not forced by any expectations. These themes pointed to a possible theory about the students' experience of animal-assisted therapy used as a reading intervention strategy, which is grounded in the data. The information was compiled in such a way as to show that the themes that emerged are grounded in the research and therefore valid.

The data was organized by type of material: (a) interviews, (b) observations and (c) questionnaires.

Once the data was transcribed and organized, it was explore fully. The transcriptions of the interviews were read many times, and notes were taken on certain ideas or thoughts that occurred during the readings. Making these kinds of notations enabled the researcher to better code the documents later in the analysis process. This initial step was repeated with the surveys and observation. After this initial exploration into the data, a general sense of the information began to show.

The next phase included coding the data. The coherent patterns were identified and the data were labeled in terms of the varied themes which arose.

From here, a narrowing process took place as the texts were collapsed and condensed into fewer and fewer themes. Eventually, I identified four main themes that are based on the feelings, assumptions and perspectives of the parent, teachers and students.

From these distinct themes, detailed descriptions were created of the research process and the data gathered in order to begin to answer the central research question. This intensive step was where a deeper understanding of the phenomenon that was initially set out to study began to form. This step involved reviewing and analyzing the multiple perspectives that emerged from the three groups of participants (parent, teachers, and students).

The final portion of the analysis consisted of a detailed summary of the findings (see below). The core themes that emerged and the perspectives, assumptions, and feelings are discussed. In an attempt to generate a theory, the main research question is answered; and any new questions that emerged are identified and discussed.

The existing literature is then reviewed and compared to the theories that emerged from the study in order to determine if there are any overlapping themes. The following findings are not conclusive, but should better be labeled as understandings or interpretations; a theory to be tested. Further discussion and further study on this topic is gladly welcomed.

Ethical Standards

This study complies with all ethical standards of research as determined by the American Psychological Association. Furthermore, this project was reviewed and approved by the Dominican University Institutional Review Board for the Protection of Human Subjects and assigned IRBPHS Application Approval Number 4003.

Findings

Descriptions of site and individuals

The study conducted consisted of four third-graders, two literacy assistants, and one parent. One of the students was female and the other three were males and all three attend the same elementary school in the suburbs of Northern California. All but one of the students were currently not part of the SHARE a Book program, which was the focus of this study, but had participated in the reading program the previous semester (Spring 2005). For that reason, these students were asked to recall their experiences about reading aloud to a dog as part of their reading intervention. All four students were interviewed. Each child sat either next to, or across from the researcher at a low child-sized table and answered the questions which had prepared. The interviews were audio-taped and the children were allowed to hear a short clip of them after each interview. One male student was observed during his reading time with a dog. The researcher was able to observe him from the introduction to the dog, whom he remembered from the previous semester, to the conclusion of his reading practice. The observation time was approximately ten minutes from 9:45 a.m. until about 9:55 a.m. During the observation time the room was very busy and noisy. While the subject was reading the room was filled with many other activities such as: students entering or exiting the room; other students reading aloud to “their” dog; students using headphones and reading aloud at the same time; and while still other students playing games with the literacy assistants. During the time spent conducting interviews and the observation from 9:30 a.m. until 11:00 a.m., there were seven adults in the room, three volunteers each with a dog, the director of the SHARE a Book program from the local Humane Society, the two literacy assistants and the researcher. The owner of the large, black Standard Poodle, to whom the subject read, sat in a child-sized chair, as did the student. The student read a

book about a dog, Clifford's Family, in keeping with the theme of the Thursday class when the dogs come.

Both literacy assistants were interviewed in their classroom on the same day and back-to-back. The interviews took roughly 15 minutes each and were audio-taped. These interviews occurred approximately one week prior to the observation and attendance at the reading program with the dogs. The day the researcher attended the reading sessions was the first day the SHARE a Book program started for the fall semester.

The four families of the students studied were sent the survey, and one-week was allowed for the completion of the simple, nine-question survey. Only one family responded.

Analysis of Themes

From the study of exploring reading aloud to a dog as an intervention strategy for struggling readers, four themes seem to emerge. The children, teachers and parent all agreed that the program is fun. Both the teachers and the students explained that reading aloud to a dog is also exciting. While some of the children enjoyed lying down with the dog and petting it, the teachers felt the program offered a positive, non-threatening experience for their students.

Discussion

Summary of Major Findings

It seems that animal-assisted therapy as a reading intervention strategy is enticing to students and parents because it appears to be a fun activity. No one in the study specifically mentioned how this program might affect the students' literacy skills, as was expected. Both literacy assistants explained that reading aloud to dogs is such a different and novel experience for the students that it makes the act of reading enjoyable. They go on to say that many of these students do not typically enjoy reading due to the struggle they face. During the SHARE a Book class, the children are reading books that they are already comfortable with so the anxiety of a cold-reading is not present. For this reason, the literacy assistants believe that the students are more able to relax and enjoy themselves while reading. This may demonstrate how a program like the one studied might address the aliteracy problem described earlier in this paper. The problem of aliteracy is when students have the basic literacy skills but do not enjoy the act of reading. All four students, when asked how they felt about reading aloud to a dog, responded with positive answers ranging from: "happy", "really happy", "really great", "really excited", and "good because it's fun". These answers indicate that although these children read with great effort they enjoy reading when they are reading to a dog. It is possible to think that over time that this program may have positive effects on the literacy skills of these children, although this study did not take that issue as its focus.

As mentioned earlier in this paper, it was expected that the students would be distracted by the dogs they were reading to. One can just imagine a child wanting to pet the dog, talk to the dog and interact with the dog and avoid his or her reading practice. The observation of the student during his reading practice demonstrated the opposite response. In fact, the student

seemed distracted by the noise and bustle in the classroom more so than by the large dog lying in front of him. The subject of the observation did not interact with the dog other than looking up at him every now and then when he finished reading a page. The boy did not pet the dog and often had his hands behind his back while he read. It is not believed that this was done in fear; it may have been a concentration technique. True to the theme mentioned by the teachers and the other students, this boy seemed very excited to be reading to the dog, even though his interactions with the dog were limited. He read very fast and was coached by the volunteer to slow down and re-read sentences where he skipped a word or two. The volunteer also asked the boy comprehension questions as he was reading. Only once or twice did the student look up away from his book and around the room, all other times he was on task reading. One of the literacy teachers, when asked about students staying on task, responded by stating that:

...I would think that [the students] might even be distracted by another dog or something...They just are so...focused. They are just reading these books with the dogs and, you know, sometimes they'll be petting the dog as they're reading...or the dog will just be lying there, like, sleeping, and they just continue reading on and on. Once in a while they'll show a dog a picture or something. It's so cute!

From the observation and the explanations from one of the teachers, students seem to be focused and on task, as opposed to distracted while they are reading to the dog.

From all the research completed prior to the field study, it was expected that the students would much rather read aloud to a dog than to an adult. It also made sense that struggling readers would feel apprehensive about having to display their lack of skills orally and in front of an adult. From the field research, it appeared that that does not seem to be the case. It seems that the students who read aloud to the dogs in the SHARE a Book program truly enjoy reading to the dogs, but also do not mind reading aloud to adults. Three out of the four students when

questioned if they would rather read aloud to a dog or read aloud to an adult said both. When probed further, one boy explained that he would “rather read aloud to both [an adult and a dog]...because my Mom can correct me if I miss a word, and I can pet the dog”. The one parent explained that her child “...enjoys reading to anyone. He likes reading with the dogs as long as an adult is with him”, even though she noted that her son loves dogs. It is believed that having support from the adults is desired by the children. For a reader having difficulty with the text, knowing that an adult is present to guide him or her through might be a comforting thought. This finding shows the importance of having an adult volunteer at the child’s side while the child is reading to the dog. Both literacy assistants gushed with appreciation for the volunteers who come with the dogs. One teacher said:

I mean the dogs are wonderful and they really are, but the people who come are fantastic. You know, they are really wonderful people, and they’re volunteering their time. And they sit and they read with [the students] and some of them are here for...an hour or an hour and a half listening to these kids. And you know reading does not come easily to these students. So, you know, sometimes it’s a little boring for them, but they’re great!

The idea that the volunteers are bored can be disregarded by the fact that two of the volunteers who come every other week have decided to pursue literacy education as an interest. One volunteer has begun taking classes in teaching reading. This trend is an unforeseen benefit to the program.

Although only one family returned the survey, it was noted that their child seemed to have responded “fairly well” to the reading program. No explanation was given for what fairly well means and unfortunately none was asked for, but it is believed to mean that the child responded positively to this type of reading program and would have continued to do so had that child returned this year. Both reading assistants responded, when asked in what ways have their

students responded to the SHARE a Book program, that all the students have responded positively. They both told the story of a young girl, who came to their reading room on Thursdays when the dogs were present, who was terrified of dogs. They said that at first she needed guidance just to walk into the room; that she would not enter alone. She was not pushed into reading to the dogs and was able to play games with the other children each visit. After some time had passed and she was able to see her classmates enjoying themselves with the dogs, she began reading to a dog. She sat on a chair while the dog lay on the floor. One literacy assistant explained that, “her fears just melted because [reading to the dogs] was wonderful, it really was”. After that, the girl was able to walk out of the classroom with the owner and the dog and sit on the bench outside the classroom petting the dog. It is a story like this that illustrates the non-threatening atmosphere provided by the teachers and the dogs. If a child who is terrified of dogs can overcome her fears to read to a dog, imagine the effects on a child who already loves dogs and looks forward to reading to them. As described by the other literacy assistant, “when [the students] read [in the reading room] they feel like they’re being critiqued all the time, which is exactly what we do; we critique their reading. When they read in a classroom, they’re being critiqued. But when they’re reading to the dogs, I don’t think they think it’s threatening at all”. She concluded her thought by stating that, “all in all I think [reading to the dogs] was just a really positive, non-threatening, fun experience for [the students]”.

Comparisons with existing literature

As the literature shows, being in the presence of an animal has an anti-stress reducing quality, as well as a relaxing effect. The third grade boy studied during his reading practice seemed very relaxed as well as excited. He seemed comfortable around the dog, which would be in agreement with the literature on children interacting with dogs either during therapy sessions

or in a medical office. The literature on reading suggests that situations that reduce anxiety might aide a student as they learn to read; that providing a relaxing environment will help the student feel more at ease and thus allow them to read more. Again looking at the reading theories, we see that the more a student reads the greater increases one is apt to see in their reading fluency. The canine-assisted reading program at this school clearly supports the theory that enjoying reading will encourage students to read more. All four subjects enjoyed reading aloud to the dogs, which makes one believe that they will want to read more when the dogs are present. Rather than dreading reading, if in fact they do, the students look forward to reading to the dogs. One can only see how this might positively affect their reading fluency over time. Along with having a positive effect on reading fluency, it seems that this program might actually work to decrease the problem of aliteracy. Although all four of the subjects were struggling readers, they all professed a level of enjoyment reading to the dogs. This enjoyment is what teachers aim to foster when they state they want their students to have a love of reading; to become lifelong readers. In fact, one teacher explained that “anything that can make kids excited about reading is...wonderful as far as educators are concerned” and goes on to say that her students are “a little hesitant about sitting down, picking up a book and reading on their own. Most of them really aren’t like that, they don’t have that...they haven’t developed that love for reading and hopefully this will increase that love of reading” thereby combating the problem of aliteracy.

Limitations of study

There are many limitations to the actual study from the one which had been proposed. The school which was studied had reconfigured their Language Arts program at the beginning of the school year. This meant that many children needed to be tested and retested for eligibility in the reading resource room. For that reason, the SHARE a Book program was put on hold until

the reading-room rosters could be confirmed. This meant the first day of the animal-assisted therapy program was not until October 20, 2005, with the next session did not occur until November 17, 2005. Unfortunately, the observation and the interviews of the students were conducted in one day. Another unfortunate outfall from this was that it forced the researcher to limit the subjects to students who had already been in the program. Since the parent surveys needed to be sent out as soon as possible, they could not be sent to parents who had no experience with the SHARE a Book class. That meant only children who were familiar with the program could be potential subjects. However, many of those children did not return to the resource room this year, which is why only one child, who was the only returning student from last year, was observed. The permission slips were sent out to six families, however, only four of them responded. It would seem wise in the future to try to translate the permission slips and subsequent mailings into Spanish or other languages for families who do not speak English as a first language. It is believed that the lack of multi-lingual materials limited the number of participants in this study. As it was, only one family returned the survey out of the four to whom it was sent. This and all the other factors mentioned above demonstrate the limitations in this study. Using such a small sample size is hardly adequate when trying to determine overall themes and findings about canine-assisted therapy programs. Having only observed one subject and only received one survey the findings are questionable for broad-scale research, however, it is believed that the findings noted above are sound and come directly from the field research and are not forced by the researcher.

The questions asked on the childrens' interviews and the parent survey provided very little information on the specific topic. It was difficult to foresee which questions would net the most productive answers. Only one question on the survey actually provided any useable information for the study. It is believed that the lack of rich questions is due to the difficulty of

creating tools so far in advance of the actual study. At the time of creation, it was felt the questions provided were adequate and that they would support the thesis and yet allow freedom for the parents to express themselves. This was not the case upon receiving the one survey that was returned. The study is limited by the fact that the survey asked too many multiple-choice questions and did not ask enough open-ended questions.

Implications for future research

This paper is just the beginning in a wonderful field of research: animal-assisted therapy and reading. As the literature review suggests, very little literature exists on the topic of canine-assisted therapy as a reading intervention strategy. This may be due to the fact that these types of programs are not yet widespread in schools. However, there *are* schools that host these programs and they should be studied. It would be wonderful to see a few types of studies conducted: purely qualitative case-studies and purely quantitative, longitudinal studies that address the effects of these programs on literacy skills over time and, of course, interesting mixed-review studies that address both the qualitative and quantitative aspects of this field. It is now clear how difficult either such study will be to conduct, but the topic is worthwhile and deserves the focus of our attention.

Overall Significance of Study

This study, albeit limited by unforeseen factors, begins to explore the use of canine-assisted therapy in schools used to aide emergent and struggling readers. By shining light onto a new and innovative field of work, this study has brought AAT and reading together like never before. Parents, teachers, reading specialists, principals and reading consultants may begin to see that programs such as the one studied may have benefits for the children who participate in them. If they do not see those benefits listed within this paper, they may choose to conduct further

research or to elicit researchers to come to their schools to conduct just such a study. It is the researcher's hope to bring a new look at reading interventions. So many children struggle with the reading goals set for them, it seems only fair to introduce innovative strategies to help them gain the knowledge and understanding they need to be productive readers who enjoy the act.

References

- Alvermann, D.E. (2003). Seeing themselves as capable and engaged readers: Adolescents and re/mediated instruction. North Central Regional Educational Laboratory. Naperville, IL: Learning Points Associates.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist, 28*(2), 117-148.
- Bandura, A., Barnaranelli, C., Caprara, G. V., & Pastorelli, C. (1996). Multifaceted impact of self-efficacy beliefs on academic functioning. *Child Development, 67*, 1206-1222.
- Beck, A. M., & Katcher, A. H. (1984). A New Look at Pet-Facilitated Therapy (Value of Companion Animals to Human Health). *Journal of the American Veterinary Medical Association, 184*(4), 414-421.
- Beck, A. M., & Katcher, A. H. (2003). Future Directions in Human-Animal Bond Research. *American Behavioral Scientist, 47*(1), 79-93.
- Burton, L. E. (1995). Using a dog in an elementary school counseling program. *Elementary School Guidance & Counseling, 29*(3), 236-241.
- Chandler, C. (2001). *Animal-assisted therapy in counseling and school settings* (Report No. ED459404 2001-10-00). Greensboro, NC: ERIC Clearinghouse on Counseling and Student Services.
- Colorado State University, College of Applied Human Sciences, School of Social Work H.A.B.I.C. Program, (n.d.). Retrieved on March 25, 2005 from <http://www.caahs.colostate.edu/sw/HABIC2002.htm#HABIC%20School%20Program>.
- Cusack, O., & Smith, E. (1984). *Pets and the Elderly*. New York: Haworth Press.

Delta Society, (n.d.). About Animal-Assisted Therapy. Retrieved March, 3, 2005, from <http://www.deltasociety.org/aboutaaat.htm#aat>.

Eber, F. & Miller, S. (2003). *Improving primary students' reading fluency* (Report No. ED479067 2003-05-00). Master's of Arts Research Project, Saint Xavier University and SkyLight Professional Development Field-Based Master's Program.

Fine, A. H. (2000). *Handbook on Animal-Assisted Therapy: Theoretical Foundations and Guidelines for Practice*. San Diego, CA: Academic Press.

Friedmann, E. (2000). The animal-human bond: Health and wellness. In A. H. Fine (Ed.), *Handbook on Animal-Assisted Therapy* (pp. 41-58). San Diego, CA: Academic Press.

Friedmann, E., Katcher, A. H., Thomas, S. A., Lynch, J. J., & Messent, P. R. (1983). Social interaction and blood pressure. Influence of animal companions. *The Journal of Nervous and Mental Disease*, 171(8), 461-465. Abstract obtained from PsycINFO_1887, ISSN: 0022-3018.

Friedmann, Ph.D., E. & Thomas, RN, Ph.D., S. A. (1995). Pet ownership, social support, and one-year survival after acute myocardial infarction in the Cardiac Arrhythmia Suppression Trial (CAST). *The American Journal of Cardiology*, 76(17), 1213-1217.

Hart, L. A. (2000). Psychosocial benefits of animal companionship. In A. H. Fine (Ed.), *Handbook on Animal-Assisted Therapy* (pp. 59-78). San Diego, CA: Academic Press.

Hasbrouck, J. E. (1999). Read Naturally: A strategy to increase oral reading fluency. *Reading Research and Instruction*, 39(1), 27-37.

Ingels, S. J. & Scott, L. A. (2002). The High School Sophomore Class of 2002: A Demographic Description—First Results From the Base Year of the Education Longitudinal Study of 2002. *Education Statistics Quarterly*, 6(1 & 2), 1-59.

Hughes, K. (2002). See spot read. *Public Libraries*, 41(6), 328-330.

Hunt, S. J., Hart, L. A., & Gomulkiewicz, R. (2001). Role of small animals in social interactions between strangers. *The Journal of Social Psychology*, 132(2), 245-256.

Intermountain Therapy Animals (2003-2004). *Reading Education Assistance Dogs*. Salt Lake City, UT: Intermountain Therapy Animals.

Katcher, A., Segal, H. & Beck, A. (1984). Comparison of contemplation and hypnosis for the reduction of anxiety and discomfort during dental surgery. *American Journal of Clinical Hypnosis*, 27(1), 14-21.

Kaufmann, M. (1997). Creature comforts: Animal-assisted activities in education and therapy. *Reaching Today's Youth: The Community Circle of Caring Journal*, 1(2), 27-31.

Krashen, S. (1983). *The Natural Approach: Language Acquisition in the Classroom*. San Francisco: The Alemany Press.

Lieber, J. S., & Fassig, E. I. (n.d.). *It's a Dog's Life: A pilot study investigating the effects of the human-animal bond on a child with attention deficit/hyperactivity disorder* (pp. 10-15). University of Northern Colorado.

Melson, G. F. (2003). Child development and the human-companion animal bond. *The American Behavioral Scientist*, 47(1), 31-39.

Melson, G. F. (2000). Companion Animals and the Development of Children: Implications of the Biophilia Hypothesis. In A. H. Fine (Ed.), *Handbook on Animal-Assisted Therapy* (pp. 375-383). San Diego, CA: Academic Press.

Montgomery, J. K. & Moore-Brown, B. J. (2003). Last chance to become readers: Pre-referral interventions. *Leadership*, 22-24.

Moody, W. J., King, R., & O'Rourke, S. (2002). Attitudes of paediatric medical ward staff to a dog visitation programme. *Journal of Clinical Nursing, 11*(4), 537.

Nation Assessment of Education Progress (NAEP), (2003) The Nation's Report Card, Reading Highlights. Retrieved June 28, 2005, from <http://nces.ed.gov/nationsreportcard/pdf/main2003/2004452.pdf>.

Nagengast, S. L., Baun, M. M., Megel, M., & Leibowitz, M. (1997). The effects of the presence of a companion animal on physiological arousal and behavioral distress in children during a physical examination. *Journal of Pediatric Nursing, 12*(6), 323-330.

Naring, G., Schaap, C., De Mey, H., & van der Staak, C. (1996). Continuous measurement of the blood pressure response of normotensives and hypertensives during reading. *Homeostasis in Health & Disease 37*(1-2), 57-66. Abstract obtained from PsycINFO_1887, ISSN: 0960-7560.

Nebbe, L. L. (1991). The human-animal bond and the elementary school counselor. *School Counselor, 38*(5), 362.

Noyes, D. (2000). Developing the disposition to be a reader: The educator's role. *Clearinghouse on Early Education and Parenting*. Retrieved July 16, 2005 from <http://ceep.crc.uiuc.edu/pubs/katzsym/noyes.html>.

Odendaal, Ph.D., J. S. J. (1996). A physiological basis for animal-facilitated psychotherapy. *Dissertation Abstracts International, 61*(9), 4999.

Ogawa, E. (2001). Translated Title: Effects of aloud/silent reading, reading speed, Type A behavior pattern and preference of material on the cardiovascular reactivity during reading tasks. *Japanese Journal of Physiological Psychology & Psychophysiology 19*(1), 25-32. Abstract obtained from PsycINFO_1887, ISSN: 0289-2405.

- Osborn, J. & Lehr, F. (2003). *A focus on fluency. Research-based practices in early reading series*. (Report No. ED 481962 2003-00-00). Honolulu, HI: Pacific Resources For Education And Learning.
- Pang, E. S., Muaka, A., Bernhardt, E. B., & Kamil, M. L. (2003). *Teaching reading: Educational practice series*. (Report No. ED481186 2003-00-00). Geneva, Switzerland: International Bureau of Education.
- Parshall, D. P. (2003). Research and reflection: Animal-assisted therapy in mental health settings. *Counseling and Values, 48*(1), 47-56.
- Polk, N. (2003, April 13). See spot listen. *New York Times*.
- Schunk, Ph.D., D. H. (2003). Self-efficacy for reading and writing: Influence of modeling, goal setting, and self-evaluation. *Reading & Writing Quarterly, 19*, 159-172.
- Serpell, J. A. (2000). Animal companions and human well-being: An historical exploration of the value of human-animal relationships. In A. H. Fine (Ed.), *Handbook on Animal-Assisted Therapy* (pp. 41-58). San Diego, CA: Academic Press.
- Thomas, S. A., Lynch, J. J., Friedmann, E., Sugihara, M., Hall, P. S., & Peterson, C. (1984). Blood pressure and heart rate changes in children when they read aloud in school. *Public Health Reports, 99*(1), 77-84. Abstract obtained from PscyINFO_1887, ISSN: 0033-3549.
- U. S. Department of Education (1994). National Adult Literacy Survey. Retrieved March 15, 2005, from: <http://nces.ed.gov/programs/digest/d03/tables/dt391.asp>.
- University of Tennessee College of Veterinary Medicine H.A.B.I.T. Program, (n.d.). What is H.A.B.I.T.? Retrieved March 25, 2005, from <http://www.vet.utk.edu/habit/about.html>.
- White, S. (1995). Listening to children read aloud: Oral fluency. *NAEP Facts, 1*(1), 2-4.

Wilson, C. C. (1991). The pet as an anxiolytic intervention. *The Journal of Nervous and Medical Disease*, 179(8), 482-489.

Appendixes

Project: Exploring Animal-Assisted Therapy as a Reading Intervention Strategy

Setting: _____

Observer: _____

Role of Observer: _____

Observee: _____

Date & Time: _____

Length of Observation: _____

Description of Student While Reading:

Reflective Notes (insights, hunches, themes):

_____ *Touch (Is he/she touching anything?)*

Touch

_____ *Sight (What is he/she looking at? What did he/she look like?)*

Sight

_____ *Sound (What sounds is he/she making?)*

Sound

How many books did he/she read during this observation? _____

Exact length of time child spent reading: _____

What appeared to be the general feeling of the student as he/she was reading?

What did you notice about the student as they were reading other than touch, sight and sound?

Describe/draw the setting in which the child was reading:

Project: **Exploring Animal-Assisted Therapy as a Reading Intervention Strategy**

Time of Interview: _____

Date: _____

Place: _____

Interviewer: _____

Interviewee: _____

Description of Interview:

- a) **Purpose of Study:** I'm going to ask you some questions to learn about your experience of the SHARE a Book program, in which you read to dogs.
- b) **Individuals and Sources of Data Collection:** I will be watching you during your reading practice, asking you to read to me so I can see how well you read, and asking you some questions today about the SHARE a Book program. I will also be asking your teachers about the program, and even asking your parents what they think.
- c) **What Will be Done with the Data to Protect Confidentiality:** You can say anything you want to me and even if I report on what you said, I will not tell anyone that you were the one who said it. That's called "keeping it confidential."
- d) **Length of Interview:** I'm going to ask you some questions and you'll be here with me for a few minutes.

[Turn on tape recorder and test it.]

Questions:

1. What is the best part of coming to this reading room?

Probe: Why is that the best part?

2. Which would you rather do: a) read aloud to a dog, or b) read aloud to an adult?

Probe: Why do you feel that way?

3. How do you think your reading has changed since you started reading to the dogs?

Probe: Tell me more.

4. How do you feel about reading to a dog?

Probe: Why do you feel that way?

5. Last question, do you read more books when you read to a dog?

Probe: Why do you think that is?

6. What else do you want to tell me about reading to the dogs here in this room?

Project: **Exploring Animal-Assisted Therapy as a Reading Intervention Strategy**

Time of Interview: _____

Date: _____

Place: _____

Interviewer: _____

Interviewee: _____

Description of Interview:

- a) **Purpose of Study:** The purpose of this qualitative (explorative in nature), micro-ethnographic (small sample size) study will be to observe and explore the ways in which the emergent/remedial readers respond to reading aloud to a dog as part of an animal-assisted therapy session at the resource lab at this school in Northern California.
- b) **Individuals and Sources of Data Collection:** I will be observing the students during their reading practice, pre and post testing them on oral reading fluency, conducting short interviews with the students to determine their feelings about the SHARE a Book program, conducting interviews with both literacy assistants, and sending out a survey to the parents of these students.
- c) **What Will be Done with the Data to Protect Confidentiality?:** Upon signing the consent form, you give me permission to use your comments in my study. Your quotes will be cited and used exactly as you spoke them, however, your name will remain anonymous. I will also be generalizing your comments into themes in order to analyze them. Once the data are collected, they will be analyzed by me. I will compile the information into themes to produce a theory about the effectiveness of AAT as a reading intervention strategy.
- d) **Length of Interview:** This interview will take approximately 15 to 20 minutes.

[Start tape recorder and test it.]

Questions:

1. Please describe your role in the SHARE a Book program.

Probe: Tell me more.

2. In what ways have the students in this reading lab responded to the SHARE a Book program?

Probe: Please give me more examples.

3. Why do you think the children have responded in these ways?

Probe: Please explain your answer in more detail.

4. How does the SHARE a Book program compare to how you were teaching before it?

Probe: What does “_____” mean to you?

5. What interesting anecdotes have you observed that you can share with me about any of your students during their practice reading time with a dog?

Probe: Tell me more.

6. Is there anything else you want to share with me about the program?

Probe: Anything else?

Thank you for your cooperation and participation in this interview. Your comments and thoughts will remain confidential and will only be used in my study. I will be asking you to participate in another interview in a few weeks upon completion of my field observations in your reading lab. Thanks again!

Notes:

Exploring Animal-Assisted Therapy as a Reading Intervention Strategy

Thank you for taking the time to complete the following survey. Your answers will help me better understand the effectiveness of an animal-assisted therapy program for use as a reading intervention. Your answers will remain confidential. If you need more space to answer any question or to comment further, please feel free to use additional paper and include it you're your survey. Thank you!

1. Age of child: _____ Grade: _____

2. Gender of Child:

- _____ a) female
 _____ b) male

3. Number of years child has been in a pull-out reading resource or reading intervention class:

- _____ a) less than 1
 _____ b) 1
 _____ c) 2
 _____ d) 3
 _____ e) more than 4

4. Number of minutes child spends reading each day (at home):

- _____ a) less than 5
 _____ b) 5
 _____ c) 10
 _____ d) 15
 _____ e) 20
 _____ f) more than 20

5. Number of whole books child reads per week (at home):

- _____ a) less than 1
 _____ b) 1-2
 _____ c) 3-5
 _____ d) 6-8
 _____ e) 9-11
 _____ f) 12-14
 _____ g) more than 15

6. To what extent do you feel your child has responded positively to the SHARE a Book program?

- _____ a) not at all
 _____ b) a little bit
 _____ c) fairly well
 _____ d) very well

7. Why do you think your child has responded in such a way?

8. Please tell me the extent of your agreement or disagreement with the following statement:
“I think the *SHARE a Book* program is better than traditional reading interventions.”

- a) strongly disagree
- b) disagree
- c) undecided
- d) agree
- e) strongly agree

9. Please explain your response in more detail.

10. Reasons for enrolling your child in the *SHARE a Book* program (*rank 1 – 3 in order of importance to you*):

- a) it interested me
- b) it sounds like fun
- c) my child loves dogs
- d) nothing else was working
- e) my child needs all the help he/she can get
- f) the dog will inspire my child to read more
- g) my child will not be as anxious about reading to a dog
- h) a friend/family member thought it would be a good idea

11. Please tell me the extent of your agreement or disagreement with the following statement:
“A dog in the classroom will distract my child from his/her reading practice.”

- a) strongly disagree
- b) disagree
- c) undecided
- d) agree
- e) strongly agree

12. Please use this space if there is anything else you would like to express.

