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## Horse Interaction as Motivation for Development of Literacy Skills in Emergent Readers

Взаимодействие с лошадьми как  
мотивация для развития навыков чтения  
и письма у начинающих читателей

### Аннотация

Двести детей дошкольного возраста и учеников первых классов начальной школы приняли участие в программе развития основных навыков чтения и письма посредством взаимодействия с лошадьми. Программа использует серию трех взаимодействий с лошадьми для повышения мотивации воспитанников детсадов и школьников к изучению чтения. Во время знакомства с лошадьми участники программы получают экземпляры книги, которую они будут читать на протяжении следующих шести недель. В течение этого периода дети принимают участие в занятиях, посвященных лошадям, в рамках обычных уроков, а также читают полученную книгу. В конце программы ее участники отправляются на экскурсию на ферму, где им предлагается читать вслух и взаимодействовать с лошадьми в качестве награды за помощь на ферме. Приобретение навыков чтения и письма в раннем возрасте и показатели успеха в этой области измерялись с помощью тестов в начале и в конце эксперимента, а также качественных данных, собранных среди учи-

Horse Interaction as Motivation  
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### Abstract

Two hundred kindergarten and first grade students participated in a program to develop early literacy skills through horse interaction. The program uses a series of three-horse interaction experiences to increase motivation to read. During the introduction to the horse, students are provided with a copy of the book they will read over the next six weeks. The students participate in horse-focused activities over the next six weeks during regular classroom instruction along with practice time reading the book. At the end of the program, students attend a field trip to a farm where they are invited to read aloud and engage in further interaction with horses as a reward for their work. Early literacy skills and literacy success indicators were measured through a pre-/post-test as well as qualitative data collected from teachers and parents. Results show statistically significant increases in literacy indicators. Students also demonstrated an increase in horse knowledge.

**Keywords:** horses, reading, literacy, animal-assisted, equine-assisted, miniature horses

телей и родителей. Результаты показывают статистически значимый рост показателей грамотности. Участники программы также показали увеличение знаний о лошадях.

**Ключевые слова:** лошади, чтение, грамотность, при участии животных, при участии лошадей, миниатюрные лошади

## Introduction

In the context of literacy, when a student is encouraged to read and their early experiences with reading are positive, they will carry that attitude on and continue reading throughout their life.<sup>1</sup> There are numerous research articles reporting the best strategies and practices in education. Several strategies lead to success in literacy: multiple exposures to written text,<sup>2</sup> frequent opportunities that foster motivation to read for a variety of purposes,<sup>3</sup> promoting independent reading outside the school in the home and with other community programs,<sup>4</sup> making personal connections with the text,<sup>5</sup> and straightforward integration of literacy and content.<sup>6</sup> Including animals, such as horses, into a reading program can support each of the strategies providing motivation, positive reinforcement, and bringing the characters to life, fostering a deep connection to the story.

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<sup>1</sup> Kate Summers, "Adult Reading Habits and Preferences in Relation to Gender Differences," *Reference & User Services Quarterly* 52, no. 3 (2013): 243–249.

<sup>2</sup> Catherine E. Snow, M. Susan Burns, and Peg Griffin, eds., *Preventing Reading Difficulties in Young Children* (Washington: National Academy Press, 1998).

<sup>3</sup> Catherine E. Snow, Susan Burns, and Oeg Griffin, eds., *Preventing Reading Difficulties*.

<sup>4</sup> M. Susan Burns, Catherine E. Snow, and Peg Griffin, eds., *Starting Out Right: A Guide to Promoting Children's Reading Success* (Washington: National Academy Press, 1999).

<sup>5</sup> Michael A. K. Halliday, "The Place of Dialogue in Children's Construction of Meaning," in *Theoretical Processes and Models of Reading*, 4th edition, ed. Robert B. Ruddel, M. R. Ruddell, and Harry Singer (Newark: International Reading Association, 1994).

<sup>6</sup> Michael Pressley, Richard Allington, Lesley Morrow, Kim Baker, Eileen Nelson, Ruth Wharton-MacDonald, Cathy Collins Block, Diane Tracey, Gregory Brooks, John Cronin, and Deborah Woo, *The Nature of Effective First-Grade Literacy Instruction* (CELA-R-11007) (Washington: Office of Educational Research and Improvement, 1998).

## Methodology

The present article attempts to answer the following research question: can the use of the enhanced program design motivate children to read? This study examines a program that incorporates miniature horse interaction to motivate emergent readers. The inclusion of the animal acted as a motivator and helped create a real-world connection to the text, which was one of the effective strategies mentioned earlier. The animals were a powerful influence on the success of the program. The original program in the study did not introduce horse interaction until a final experience. The program adapted for this study incorporated miniature horses, which were trained as visitation animals and introduced at the beginning of the program. The interaction was threaded throughout the entire experience. The thought behind the adaptation was to increase the interaction with the horses to increase initial engagement and sustain motivation throughout the entire program. The final Reading with Rosie program was built around a learning model called the Animal Assisted Learning Model created for this study. It is a framework from which interactive experiences could be created and designed for optimal motivation (see Figure 1). The methodology for this study evaluates the effectiveness of the enhanced program design targeting motivation. The evaluation piece is divided into four parts: pre-test, post-test, parent/teacher survey, focus groups, and observation. It was piloted with 200 first-grade students from the same school system. The data analysis will be strictly descriptive statistics using frequency tables and a qualitative matrix to organize the results. Certain assumptions are made regarding the students participating in this study and the teachers in each classroom. The assumptions were (1) the majority of students in IPS have not had previous experience with horses, (2) the IPS school system is looking for ways to improve reading readiness in the lower grades, (3) teachers will implement pieces of the resource guide in their classrooms, (4) all students are first graders, and (5) all students will have a basic working knowledge of the alphabet.

### Animal Assisted Learning Model

The model is broken down into five components: introduction, interaction, integration, and demonstration. Each component integrates the effective strategies mentioned above: motivation, access, integration of text, reading aloud, and creating joy

and enthusiasm through demonstration and recognition. It is built along a continuum in that each component builds upon the previous and affects the following. Any phase can be revisited, sliding up and down the continuum depending on the needs of the audience. The Animal Assisted Learning model uses structured interaction with an animal to motivate students through: engagement through novelty and connecting it to prior knowledge—*Introduction*; creating a personal connection to the text—*Interaction*; integrating the subject of the text into all areas of classroom study to build upon prior knowledge—*Integration*; reinforcing new knowledge and personal connection—*Interaction*; demonstrating new knowledge and recognizing achievement—*Demonstration*.

<i>Animals/ Experience</i>	<b><i>Motivation</i></b>		↑
	Continuing learning and motivation		
	Demonstration and Celebration of Success	<i>Demonstration</i>	
	<i>Interaction</i>	Reinforcement of motivation and knowledge	
	Building on and reinforcing new knowledge	<i>Integration</i>	
	<i>Interaction</i>	Creating personal and experiential connection	
	Accessing prior knowledge and peaking curiosity	<i>Introduction</i>	

Figure 1. The Animal Assisted Learning Model

The model is flexible and designed to adapt to various situations without compromising the outcome. Each child is motivated by something different and needs varying internal and external motivation combinations to succeed. Therefore, it is essential to be purposeful and complete each model stage according to the individual student’s needs. In addition, the connection between humans and animals is constantly evolving and shifting as our understanding of animal behavior, and relational dynamics deepens. Therefore, a model designed to structure this interaction must follow the same path.

## Enhanced Program Design

The Reading with Rosie program was adapted from the original Black Stallion Literacy program<sup>7</sup>. The Black Stallion Literacy Project was piloted the year prior to this study. It was determined that more interaction with the horses could be used to support early emergent literacy skills. The adapted version was titled Reading with Rosie, named after the miniature horse originally used in the program. The program was built around the Animal Assisted Learning Model. Before the program, both teachers and parents are informed about the program and given strategies to support continued reading and success. The first part of the program is an initial visit to the school, where the book is introduced to the students. In a large group room such as the gym, the horse is then brought in after teasing the students about meeting the main character of the book. The students are given a brief talk about energy, noise, and other aspects of horses before they are brought in. Then they are taught some basic information about horses and invited to come up in small groups. Volunteer handlers are taught how to partner with the horse to manage any signs of stress. The facilitator manages contact with the kids to minimize stress on the horse. For large groups, more than one horse could be included. It is essential to have well-qualified and trained facilitators for this type of large group interaction. It is also imperative that well-suited and trained visitation animals be included in this type of program. Poorly managed interaction with large groups can be stressful on the animals. The students are then told they get another book to read with their class and home. The lead facilitator hints at a big surprise if the students read in their classrooms and at home. After the visit, the teacher incorporates the book into their regular reading time. The equine partners maintain contact each week with the students through email Care Packages, which include horse activities, motivational messages from Rosie, and hints at a big celebration at the end of the program. Other literacy skills such as reading at home and library, discussing horses and the book characters with their parents are encouraged. At the end of the six weeks, the students are invited to the barn for a field trip. During the field trip, the barn produces some spectacle for the students. In this study, the barn staff produced a circus to match the theme of the book *Little Black Goes to the Circus*. Each class chooses students to read their favorite part of the story aloud to the rest of the group and the horses ahead of time. Students are also given a chance to interact with the horses in a structured but interactive way. At the very end of the visit, they are supplied with an additional book to take home and read. An infection protocol was created during this program to ensure that the horse brought into the

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<sup>7</sup> Black Stallion Literacy Project website, accessed May 16, 2019, <https://theblackstallion.com/web/tag/black-stallion-literacy-project/>.

classroom was clean, and that messes would be cleaned and sanitized while on the school property. Details on the protocol can be found in the full curriculum.

## Data Analysis

After the pre and post-tests were completed and all parent and teacher evaluations were collected, they were paired with the release forms. Only those students who had a release and completed pre and post-test were counted. The parent evaluations were also paired to correlate parent involvement and motivation.

After all of the data was organized by class, school, and student, and then coded for name, ethnicity, gender, birth date, each pre/post-test answer, and whether or not the students needed a translator. The pre and post-tests were entered into the Statistical Package for the Social Sciences (SPSS) for analysis. Additional information on race and gender was also correlated with the results. The data were analyzed using descriptive statistics, including frequency tables focusing on the change between positive answers from pre to post-test. The short answer section of the pre-test offered insight for the descriptive statistical portion regarding patterns in their choice of reading material preference but will be entered into SPSS and analyzed according to response frequency. In addition, the pre and post-test provided information on what they identify as the most common means to obtain books.

## Results

According to the analysis of the five data collection instruments used in this study, there was an overall increase in the frequency of positive answers indicating a positive impact on each area. The pre and post-test included specific questions that targeted the indicators of motivation (See Tables 1–3).

P-5 was asked only on the pre-test as an indicator of interest (see Table 4). The responses were coded into five categories: animals, horses, nature, cartoon characters, and other and then coded by the subject in the book's title or the book topic that the student recorded. While 23.0% of the students prefer books about animals, 14.7% recorded horses specifically. The highest percentage was recorded under the Cartoon Character category.

**Table 1**

*A breakdown of questions from pre- (P) and post-test (Q) targeting motivation P-1, Q-1 and P-5*

Question	Response Type	Measure	Explanation
1. Do you like to read?	“Yes” or “No”	Measures desire • Indicator of motivation	Desire is considered to be an indicator of motivation.
5. What do you like to read about?	Open ended	Measures interest • Indicator of motivation	A theoretical reason of motivation is interest.

**Table 2**

*Response frequency of P-1 (n = 265)*

Do you like to read?	Frequency	Percentage
Yes	255	96.2
No	10	3.8
Total	265	100.0

**Table 3**

*Response frequency of Q-1 (n = 265)*

Do you like to read?	Frequency	Percentage
Yes	259	97.7
No	6	2.3
Total	265	100.0

**Table 4**

*Frequency breakdown of coded responses to P-5 (n = 265)*

Favorite topic (P)	Frequency	Percent
Animals	61	23.0
Horses	39	14.7
Cartoon character	83	31.3
Other	58	21.9
Nature	17	6.4
Did not answer	7	2.6
Total	265	100.0

Q-5 was substituted to measure comprehension as an indicator of reading engagement and motivation on the post-test (see Table 5). The responses were coded according to the students' answers in relation to the book's distinctive situations. The student's responses were written in the same format beginning with "When." They were told not to write in complete sentences.

Table 6 indicates that 37% of the students felt that the part of the story where the horse saves the boy was their favorite fragment of the book, and 19.2% reported the part of the story where the little boy falls through the ice as their favorite episode. The perception is that they are two distinct parts of the books. This question is an indication of engagement and comprehension.

**Table 5**

*Breakdown for Q-5 targeting motivation*

Question	Response type	Measure	Explanation
5. What was your favorite part of <i>Little Black, a Pony</i> ?	Open ended	Measures Comprehension • Indicator of engagement	A theoretical basis For motivation is engagement. An engaged reader is motivated and will retain more information

**Table 6**

*Frequency breakdown for coded responses Q-5 (n = 265)*

What was your favorite part of <i>Little Black, a Pony</i> ?	Frequency	Percent
When Little Black saved the boy	98	37.0
When the little boy fell	51	19.2
When Little Black and the boy were friends	30	11.3
When Little Black ran away	22	8.3
When Little Black fell	22	8.3
When the boy rode Big Red	25	9.4
Other	10	3.8
Total	265	100.0



## Teacher Surveys (TQ)

The teacher surveys were based on a five-point Likert scale with response options ranging from strongly agree to strongly disagree. Table 7 indicates 100% of the teachers responded strongly agree and agree on TQ-1: The Reading with Rosie program increased student’s motivation to read. In Table 8, student’s parents commented that the program is a “good way to motivate students to read.” Five respondents out of 16 recorded a strongly agree with 68% showing that parents didn’t comment on the program.

**Table 7**

*Frequency of responses to TQ-1 (n = 16)*

The program increased the student’s motivation to read.	Frequency	Percent
Strongly agree	11	68.8
Agree	5	31.3
Undecided	0	0.0
Disagree	0	0.0
Strongly disagree	0	0.0
Total	16	100.0

**Table 8**

*Frequency of responses to TQ-2 (n = 16)*

Student’s parents have commented that The Black Stallion Literacy Project™ motivated their child to read.	Frequency	Percent
Strongly agree	6	37.5
Agree	6	37.5
Undecided	4	25.0
Total	16	100.0

The parent surveys were distributed with approximately a 50% return rate (n = 150). Table 9 shows the parents’ responses to question one (PQ-1). Out of the total responses, 52% reported their child discussing the books and the program at home. Other responses included reading 3.3% and “other” such as art, and Spanish 6.0%.

Table 10 shows the parent’s responses to P-2 from the survey. For the question, “Did your child read this book with you?” 86.6% of the parents answered “yes.” As shown in Table 11, 87.3% of the responding parents reported their children talking about the program at home. Table 12 shows that 72.7% of the parents said that “yes,” their children have been showing more interest in reading after reading *Little Black, a Pony*.

**Table 9**

*Parent’s responses to survey PQ-1 (n = 150)*

What school programs did your child talk about most?	Frequency	Percent
The program	37	24.7
Reading	5	3.3
Other	9	6.0
Did not respond	51	34.0
Totals	150	100.0

**Table 10**

*Parent’s responses to PQ-2 (n = 150)*

Did your child read the book with you?	Frequency	Percent
Yes	130	86.7
No	20	13.3
Total	150	100.0

**Table 11**

*Parent’s responses to survey PQ-3 (n = 150)*

Did your child talk about the program?	Frequency	Percent
Yes	131	87.3
No	19	12.7
No Response	0	0.0

**Table 12**

*Parent’s responses to survey PQ-4 (n = 150)*

After reading <i>Little Black a Pony</i> , did they express interest to go read more books?	Frequency	Percent
Yes	109	72.7
No	39	26.0
No Response	2	1.3
Total	150	100.0

Parents (90.0%) also reported that their children talked at home about the horse they met, as shown in Table 13. Table 14 shows the frequency of responses to question six on the parent evaluation. The highest number of parents reported reading with their children “frequently” at home (52.7%). Only 26.7% of the parents reported reading to their children “always,” and 19% reported reading occasionally. No parents reported never reading to their children.

**Table 13**

*Parent’s responses to survey PQ-4 (n = 150)*

Did you child talk about the horse they met?	Frequency	Percent
Yes	135	90.0
No	13	8.7
No responses	2	1.3
Total	150	100.0

**Table 14**

*Parent’s responses to survey PQ-6 (n = 150)*

How often do you read with your child?	Frequency	Percent
Always	40	26.7
Frequently	79	52.7
Occasionally	29	19.3
Never	0	0.0
No response	2	1.3
Total	150	100.0

## Qualitative Results

Some assertions can be made based on the comments provided by the parents in the open comment section of the survey, the narratives, and interview responses from the teachers. First, the responses indicate that this model through the program increased the motivation of their students to read—the comments made by the teachers in their survey support this assertion. A second assertion is that physical interaction with the horse provides the most significant amount of motivation in that it captivates their attention and provides that personal connection.

Data clips from teachers in the comment portion of the survey demonstrate their support for the motivational effects of the program. Teachers made no responses in opposition to the assertion. The most common theme among the respondents was increasing their student’s amount of reading. The teachers indicated that the students chose to read over other choices during their free time.

**Table 15**

*Teacher’s responses to survey comments (n = 16)*

Respondent	Response
1	Any time my students had finished their work, they would pick up one of the books.
2	Watching my student’s read sure convinced me that they enjoyed reading <i>Little Black, a Pony</i> and <i>Little Black Goes to the Circus</i> .
3	They especially wanted to read about horses and the books they received.
5	The children really loved the <i>Little Black Books</i> .
6	The students must have read the book ten times!
7	They enjoyed having their own hardback book to keep.
8	My children sat down and read both books as soon as they received them. They were enthralled with the story.
9	Students were very excited to read the next story.
15	The horse coming into the class motivated the children to read books about horses.
16	They especially wanted to read about horses and the books they received

**Table 16**

*Parent's responses to survey narrative (n = 150)*

Respondent	Parents comments
1	She really enjoyed the book. Me too. She really likes horses.
3	He did drawings of Black Stallion all the time
4	He loved it!
5	Her interest in the program was great. Any time she sees horses she talks about the program. It was very helpful.
6	I think it had my son's attention and think it was a good project for children.
9	I think it opened a new interest in him. I was amazed that he could remember the names of the horses and also the breeds.
10	I think kids in the city can learn to love some of the things that they never get to see or touch. Some of them in their lives. They learn about the animals and how to treat them and what they eat, and it is hands on. Thank you for letting my son have the opportunity to participate.
11	I think the program is wonderful! My daughter has always loved horses and really enjoyed the whole program. She loves to read to her little brother.
13	I thought it was a good project. The more the children learn about it the more they are reading.
15	I thought it was a neat way to get the kids interested in reading.
16	It was a good experience for her. She enjoyed the book plus she enjoyed the hands-on with Little Black, Big Red and Rosie. My child enjoyed getting to see all the horses at once.
17	I think it is a good program that exposes the kids to new experiences.
21	Lewis was very excited and talked about the horses for a week afterward.
26	My daughter loved it. She truly enjoyed the whole experience. It gave her something to look forward to. She wore the mask she made everywhere.
31	My daughter was very emotional at meeting the horses at the circus
32	My daughter really enjoyed meeting the horses.
35	My son loved the horse, and he loves the book, he reads it all the time to dad, brother, himself, or me.
43	My son remembered another book he had read before about horses. We found it was also by Walter Farley.
44	My son thoroughly enjoyed the program. He enjoyed meeting the pony and still talks about his field trip.
63	She also enjoyed reading the books to me. I noticed an improvement in her reading since the project. I hope the project continues.

**Table 16 continued**

Respondent	Parents comments
68	She loved the program. She talked about it every day!
75	The homework Travis and I read together.
82	The man down the street brought his horse down so that we could pet him. The progress that my son has shown in learning to read and loving to read now.
120	This is an interesting project; it motivates kids to read each day and makes the class fun. I'm sure the kids agree.

Each teacher was asked to write a short paragraph about his or her experience. The comments support the assertion that the students were motivated to read by the project and that the physical interaction with the horse is the main motivator. Each narrative was reviewed for common themes. Table 17 shows the comments that reflect the motivation theme and support the research question.

**Table 17**

*Teacher's "additional comment" responses to survey PQ-6 (n = 150)*

Respondent	Narrative vignette—additional comments on the Black Stallion Literacy Project™
1	The program was a good motivator for reading. The class was really excited about the one-on-one visit with Little Black in their classroom. The children thoroughly enjoyed the books especially the first one because we had read it together more times. The enthusiasm built as the field trip got closer. The children looked forward to it with great anticipation, both because they were motivated by Little Black's visit and the book but also because this was the only field trip for the year [...] It is a good motivator for reading.
2	The program was truly a motivator for my classroom. Each student takes out the hard cover books at least twice a day. They want to finish their work, so they have time to read their books. They are actually choosing to read rather than me telling them to do it. The idea of them actually meeting a horse close up put a personal touch on their concept of relating to a character in the story. [...] We were able to bring in all of the horse grooming equipment and the saddle, etc. [...] This not only gave the students a better understanding of what they were learning but also me as well. I cannot think of a better program that I have been involved in to help promote reading.
3	I thought the program was a complete success! When the first visit included the live pony, my students were in awe. I feel that the students were able to relate to everything in the books [...] I feel that the students were genuinely excited to learn. The trip was a priceless memory for our urban students in many ways.
5	Several parents mentioned their children's excitement. They were excited about reading a book that was their own. These children were thrilled with their books. I saw them reading and reading them, they were excited.

**Table 17 continued**

Respondent	Narrative vignette—additional comments on the Black Stallion Literacy Project™
6	The program was a great motivation for my students. The live horse coming to the room started the excitement to read more about horses. Many students would take their books out and read it during the day. Many of the students wanted to read after we ate lunch [at the field trip]. The program is a great way to encourage young students to read. It encourages lifelong readers.
8	The surprise element to the project increased the children's eagerness to participate in the activities. Seeing Little Black increased their eagerness to read the first book. They read the whole book in one period. They were reading so intently, I just let them finish.
9	The kids were very excited to read both of the books. It seemed like the level of motivation was greatly increase. I feel that it is very important for students to have real-life experiences that these students rarely have. The students still talk about their new books and love to read them.
10	The visits with the ponies gave them the desire to read the books. These students enjoyed visiting the horses and ponies. They couldn't stop talking about it.
12	The program really motivated them to read. The especially loved their books. As a teacher it is really wonderful to see them reading.
15	The program is an excellent motivator. Parents felt that this was a good chance for the children to read an entire book.

## Interview and Observation

The observation and interview phase of the data both support these assertions. Figure 2 shows an Outcomes Matrix<sup>8</sup> demonstrating the link of qualitative data to the theme of motivation.

During most of the interviews, teachers ( $n = 6$ ) reported seeing an increase in enthusiasm for reading. They became more interested in it in general. The students would spend their free time reading and would use the horse analogy in other areas of study voluntarily. Each teacher felt that the introduction phase and first interaction, or First Touch, elevated the enthusiasm and motivation throughout the entire program duration. Observation of the classroom also supported this.

<sup>8</sup> Michael Q. Patton, *Qualitative Evaluation and Research Methods*, 2nd edition (Newbury Park: Sage Publications, 1990).

When the students were working on their horse projects, they were actively engaged and talked about the horses as they worked. The classroom would get very excited and build energy when the teacher would tell them it was time to read their books or work on a horse project. Each time they would relate to the first time they met Rosie or Little Black.

The primary goal of the model is motivation. In the pre and post-tests there was only a slight increase in positive response to the motivational indicators. This was to be expected considering there was a significantly high number of students who responded positively on the pre-test, which is important to take into account when reviewing the results. It indicates that 97.7% of the students already enjoyed reading. In related studies, students coming into the first grade generally have a positive attitude toward reading.<sup>9</sup> If the students were told that we were coming to talk about reading, they might say they enjoy reading. It is important to note that of the children who responded negatively to P-1, “Do you like to read?,” there was a large percentage of students responding positively on the post-test. This indicates a change in motivation over the course of the program.

Outcomes of AAL Model			
Themes	Interaction with the horse captivated their attention	Rereading <i>Little Black, a Pony</i> repeatedly	The students were able to relate well to the book
	Students choosing to read during free time	All skill levels of readers read together as a class	Students would want to finish their work so they could read
	Integration of horses into other lessons	The second touch experience was a great reinforcement	Genuinely excited to learn

Figure 2. Outcomes matrix of qualitative data related to motivation (n = 16)

Question five on the pre-test shows the impact of popular culture on the favorite topics the students like to read. Their favorite topic indicated was most influenced by what was popular on TV at the time. The essential factor to consider is the number of students who responded with either the popular name of an animal character or a type of animal. A large portion of the students stated they like to read books that are centered around animals or nature in general. The Biophilia hypothesis supports the attraction to animal characters<sup>10</sup> and supports reasoning

<sup>9</sup> Cathy J. Kline, *Model Reading Intervention Program, Grade 4: 2001–2002* (Austin: Austin Independent School District, 2002).

<sup>10</sup> Edward O. Wilson, *Biophilia: The Human Bond with Other Species* (Cambridge: Harvard University Press, 1984).



why animals may make such effective motivators and why children relate to them so well. Several of the students stated horses specifically. A Black Stallion poster was sent to each classroom before the first touch experience, influencing the answer to that question.

The strongest evidence in support of the motivating factors of this model comes from the responses of the teachers and parents. Their statements about the students' reactions are powerful and capture the true essence of this program. Several themes emerged from the teacher's responses to the evaluation survey and the narrative. The first central theme was that the students read the book entirely the day they received it and chose to reread it time after time. Teachers reported their students choosing to read their books when given the option for free time. One teacher stated they must have read it ten times the same day they got it." Another teacher stated, "My children sat down and read both books as soon as they received them." Both statements reflect similar ideas given by the teachers. Class observations on the day of the first touch confirm their ideas. This researcher observed the students sitting down with their books, flipping through the pages examining each picture, and discussing what was happening in each scene.

Another central theme was that of the motivating factor of the horse. This conclusion was supported by a review of the qualitative data. The horse visit and interaction are key to the success of the experience. The influence of the experiential horse interaction can be supported by the work of Dewey<sup>11</sup> that the physical contact with the subject being studied helps to reinforce the learning. The books being used for the program have horses as the main characters. Introducing live horses as part of the lesson creates a deeper connection to the text. Teachers report a large percentage of the students had not touched a horse before the first day of the program at their school. The school that was the site for the weekly observation has a sizeable Hispanic population who speak English as a second language. Most of the students from this school brought a unique perspective to the experience. One teacher commented on how the horse motivated them to talk about where they came from and horses they had been around before. Others were just overwhelmed by the entire experience. When the horses entered the room, the students would be amazed that a horse could fit in their classroom. Their enthusiasm would grow when they were told they could hug the miniature. One child even asked in Spanish, "Who's in there?" not knowing that the miniature was real. One of the key connections between the students and reading is through the horse. The story is brought to life by the hands-on interaction with the horse. They can then relate more to the book that is given to them after the first touch experience. Each teacher commented on the first touch experience in his or her narrative as the major motivating factor of the program.

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<sup>11</sup> John Dewey, *Experience and Education* (New York: Simon and Schuster Inc., 1938).

## Conclusion

The implication for education, in general, lies in two areas: the area of motivation and the area of the integrated or thematic curriculum. The results indicate that the interaction with horses under the conditions of this program motivated these children to read. As more teachers begin to integrate animals into their classrooms, the findings can give them structure for how they incorporate animals and provide a flexible framework to develop lesson plans that use the interaction with the animal as a motivator. Integration of subject matter is becoming more and more mainstream.<sup>12</sup> Integrating appropriate live-animal interaction into an academic environment can create more hands-on experiential learning opportunities for the students to increase engagement in a given lesson. Those experiences can be built upon by integrating the animal-related theme into the everyday curriculum. More research is needed to determine the differences in motivation between species of animals. For example, would interaction with a horse be more motivating than interacting with dogs or cats? Ethical partnerships with animals in classroom environments also need empirical attention, including guidelines for interaction that support the safety of both the animal and humans involved. We are at a point in animal-assisted research to begin investigating cross-species comparisons in human-animal interaction. The depths of the relationship between man and animals continue to be explored and there is so much more to learn. The intention for this type of research is to bring the animal into the equation as an equal partner with an opinion that deserves honoring. Animals play a large part in the positive development of humans and should be included in the education process to provide opportunities for connection for mutual benefit. If we can help children develop compassion and empathy while developing academic skills, then we are far richer for it.

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<sup>12</sup> Michael Pressley, Richard Allington, Lesley Morrow, Kim Baker, Eileen Nelson, Ruth Wharton-MacDonald, Cathy Collins Block, Diane Tracey, Gregory Brooks, John Cronin, and Deborah Woo, *The Nature of Effective First-Grade Literacy Instruction* (Washington: Office of Educational Research and Improvement, 1998), 3.

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