



Education is Going to the (Therapy) Dogs

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Abstract

School can be challenging for students who struggle with reading, and when those students are learning English as a second language, these challenges can seem insurmountable. Efforts to assist young or struggling readers commonly include the use of flash cards and repetition to teach sight words, as they are building blocks of students' early reading experience. The present research investigated whether activating children's funds of identity through the "teaching" of flash card words to a therapy dog could shift children's funds of identity to impact Developmental Reading Assessment (DRA) scores for sight word recognition among two classes of 7-8-year-olds learning English in the southwest United States. Each classroom teacher had more than 25 years of experience working with preemergent bilingual students. Teachers administered the DRA pre and post intervention, and these scores served as the dependent variable. We hypothesized that asking the children to teach their sight words to a therapy dog would increase sight word acquisition by honoring children's funds of knowledge and identity. Funds of knowledge refer to the information and strategies that children carry into any situation (Llopart & Esteban-Guitart, 2017, 2018; t' Gilde & Volman, 2021). Funds of identity refer to the ways that children envision themselves in a situation (Hogg & Volman, 2020). These funds are key to academic and socioemotional outcomes (Hogg & Volman, 2020; t' Gilde & Volman, 2021). Over the course of the school year, both classes improved their test scores. However, the experimental group (who started with substantially lower means) increased their scores significantly more than the control group. Results suggest the value of taking therapy dog interactions beyond the bounds of student motivation and into the realm of curriculum development, particularly for increasing literacy skills among young students becoming bilingual.

Keywords: *Second language learning, Therapy dogs in schools, Reading with dogs, Sight word acquisition strategies, Supporting multicultural readers, Funds of knowledge and identity*

Introduction

A fundamental part of learning to read is the ability to recognize sight words without impeding fluency (Bibi & Pujari, 2023, Dini, 2022; Johns & Lenski, 2019). This article describes a year-long engagement with a therapy dog and two classes of second graders (ages 7-8 years, n=50) attending a Title I school¹ in the Southwest United States. Classrooms were randomly assigned to their conditions. The experimental group read sight word flash cards to the therapy dog, while the control group read their flash cards to the classroom teaching assistant. All other literacy activities were identical throughout the school year, and the therapy dog only interacted with the experimental group during flash card practice time. Studies show that reading to a therapy dog increases children's beliefs in themselves as readers (Hlava, 2023; Moore et al., 2013). Teaching a dog to read also increases these beliefs (Hlava, 2023, Moore et al., 2013). Many studies also describe additional benefits of reading with dogs in school (Barber & Proops, 2019; Connell et al., 2019; Fung, 2019; Kirnan, Siminerio & Wong, 2015; Levinson, Vogt, Barker, Reneck-Jalongo & Van Zandt, 2017; Taboada Barber & Lutz Klauda, 2020). This study examined standardized test scores for sight word recognition among preemergent bilingual students who began the school year fluent in languages other than English. The purpose of this work was to investigate the impact of a therapy dog intervention on sight word acquisition, because sight words support fluency and comprehension (Bibi & Pujari, 2023; Dini, 2022), two components particularly salient for young readers becoming bilingual. Extending work that highlights the benefits of dogs' nonjudgmental listening qualities (Coffman, Bernstein, Davies & Justice, 2023; Fung, 2019; Lane & Zavada, 2013), this study focused on

¹ Title I schools are located in low-income neighborhoods where at least 40% of students qualify for free and reduced cost breakfast and lunch.



other aspects of human animal interaction – specifically, the related influence on learners’ funds of knowledge (Llopart & Esteban-Guitart, 2017, 2018; Volman & ‘t Gilde, 2021) and identity (Hogg & Volman, 2020) as children in the experimental group shifted their roles from students to teachers.

Funds of Knowledge and Identity

Researchers describe funds of knowledge as readily accessible stores of information and strategies that people bring to a given situation (Llopart & Esteban-Guitart, 2017, 2018; Volman & ‘tGilde, 2021). These stores are part of a person’s cultural capital (Bourdieu, 1973) and can be valued, or devalued, in social structures such as schools (Valenzuela, 2005). Valuing students’ cultural capital increases feelings of belonging and community. An example of teachers demonstrating that they value students’ funds of knowledge happens when they encourage students to explain a holiday tradition. Another example occurs when teachers employ a peer tutoring model where one student teaches another student about a topic. These activities require students to interact and share their expertise. Doing so allows each student to demonstrate unique and valuable information and conveys the teacher’s confidence in their expertise. This practice enhances an appreciation for diversity (Valenzuela, 2005). Conversely, devaluing cultural capital (and thereby funds of knowledge and identity) increases feelings of isolation and is counterproductive to learning (Valenzuela, 2005).

Not surprisingly, funds of *knowledge* are inextricably woven into the fabric of funds of *identity* (Hogg & Volman, 2020) which reflect a person’s estimation of their defining characteristics in a given setting or circumstance. For instance, young children may signal their funds of identity by naming a favorite sport (e.g., “I’m a baseball player”) or a particular aptitude (e.g., “I’m a really good piano player”). Similarly, they may name an interest or a school subject (“I’m going to be an artist because I love to draw, and art is my favorite class”). These examples demonstrate some of the ways that children link their ideas of themselves (funds of identity) with their areas of expertise (funds of knowledge).

Linking funds of knowledge and identity with human animal interaction studies represents a new line of exploration that could help researchers design more effective interventions to assist preemergent bilingual learners as they acquire reading skills in the second language. Specifically, I propose that by directing children to access their funds of knowledge, they can demonstrate their expertise and thus shift their identities from learners to teachers (Hogg & Volman, 2020; ‘t Gilde & Volman, 2021). This learning-by-teaching can be leveraged in human-animal interactions, as I describe next.

This shift from student to teacher may be particularly important for children who find themselves immersed in an education system that does not support, or does not allow, them to use their primary language. Such restrictions represent a form of subtractive schooling that erodes students’ sense of value and classroom community (Valenzuela, 2005). However, I contend that the integration of a therapy dog into literacy activities will help children feel valued, as happens when their status is elevated by shifting their funds of identity from student to teacher (Hogg & Volman, 2020; Volman & ‘t Gilde, 2021). Such feelings can cause students to be more motivated to put forth the effort and engage in learning activities (Valenzuela, 2005). This increase in effort and practice brings material consequences – including measurable improvements in test scores (Coffman et al., 2023; Levinson, et al., 2017). A therapy dog may be the ideal candidate for these lessons because children feel more confident in their own reading skills when they teach a dog about reading (Moore et al., 2013). The next section details a therapy dog intervention designed to activate funds of knowledge and shift young children’s funds of identity to empower these students as teachers, even as they are learning sight words.

Methods

Participants

Pakuna the Therapy Dog



Pakuna was a friendly 5-year-old male Labrador x golden retriever who was certified with the Alliance of Therapy Dogs. This certification included a substantial insurance policy and was granted after a lengthy training and testing process in accordance with the organization's bylaws. Pakuna had worked with other second graders prior to this intervention, so he was comfortable around very young children. From the moment that Pakuna arrived on campus, his tail wagged and he greeted everyone in his path – children and adults alike – with relaxed kindness. For example, he may have offered to shake hands by sitting politely and lifting one of his front paws, or he might have slurped his big tongue across the palm of an outstretched hand instantly initiating giggles of delight and shouts of, “He kissed me!”

Equally important, the children in the study appeared comfortable with dogs, as evidenced by their exuberance when interacting with Pakuna. Within the sample and during the time period described, not one child refused to participate in an activity involving Pakuna. Also of note, none of these students met Pakuna until the intervention began.

Setting

This study took place at an elementary school situated in a low-income neighborhood in the southwest United States. Parents signed permission slips for their children to participate. At Moore Elementary School², by coin flip, Mrs. Cody's class of 12 girls and 13 boys was assigned to the experimental condition and Mrs. Donovan's class of 11 girls and 14 boys served as the control group. Each teacher had more than 25 years in the field working with children whose dominant language was not English. At Moore Elementary School, 97% of the students identified with Latiné ethnicity, and most students spoke Spanish as their primary language.

Second graders learning English at Moore Elementary School routinely studied sight words using flash cards and repetition, and students were assigned specific times to use the flash cards each day. These training sessions were scheduled at 15-minute intervals. Small, teacher-selected groups of 4-5 students would sit in a semicircle on the floor and take turns reading the words as the teaching assistant flipped each flash card. According to my participant observation notes, students engaged in the activity with varying degrees of enthusiasm depending on their level of confidence in reading the cards correctly. Students who made an error became reluctant to read subsequent cards. Importantly, the teaching assistant did not critique the students' reading skill or pronunciation. She merely put any missed flash card back into the stack and continued flipping cards so that the students could continue their reading practice. Students who read a word correctly could hold the card or place it on the floor in front of them as the next student took a turn reading a card, and so the lessons proceeded. Each student had the opportunity to read several cards before the 15-minute practice time ended.

Procedures

The study was designed to vary one crucial element: whether children read these flash cards to the teaching assistant, or they read and “taught” the cards to Pakuna. All other aspects remained constant across groups. That is, in both classes, teachers selected small groups of students. Practice sessions lasted 15 minutes, students sat in a semicircle in the classroom and took turns reading the words as the adult (teaching assistant or me) flipped the cards. In this manner, reading to the teaching assistant kept the children in the control group in the position of students who were *learning* to recognize sight words; *learning* to read. However, in the experimental group, I attempted to manipulate children's funds of identity (from students to teachers). Thus, upon meeting the children for the first time, I asked them if they wanted to *teach Pakuna* about the words, and they agreed.

Attempting to engage students' funds of knowledge, I asked *how* the children might teach Pakuna, and students shared their ideas. For instance, Estéban offered to, “make a sentence to show Pakuna how” [to use the word appropriately]. Frida said, “We could tell him the letters for he can read like

² All names are pseudonyms.



us". Thus, the children in the experimental group changed their position from *students* to *teachers*, and this change may have contributed to the difference in their sight word scores as measured by the standardized Developmental Reading Assessment.

Because the children were assigned specific times to practice with the flash cards, Pakuna and I were present in the classroom for 30 minutes a day, three days a week. Four to five children sat on the floor encircling Pakuna. They could pet him if they wanted. During our time together, it was my responsibility to flip the flash cards just as the teaching assistant flipped the cards in the adjoining classroom. If someone missed a word, I reinserted that card into the stack, just as the teaching assistant in the control group would have done. The main difference between my role and that of the teaching assistant was that I offered students the opportunity to tell Pakuna about the words that they read correctly, to "make a sentence" as Estéban had suggested or to spell the word as Frida recommended. When students have the opportunity to teach others, their funds of identity shift, and they begin to think of themselves as teachers (Hogg & Volman, 2020, Llopert & Esteban-Guitart, 2017, 2018). These brief opportunities established and strengthened the children's relationships with Pakuna. As many scholars have noted (Gee, McCardle & Fine, 2017; Wintermantle, Grové, Henderson & Laletas, 2023; Wintermantle, Grové & Laletas, 2024), the relationship between a child and a dog has the power to impact socioemotional and academic outcomes. Additionally, elaborating on the meaning or usage of a word contributes to understanding that word. Supplying such explanations helped to shift these children's identities from being students to being Pakuna's teachers, and in that role, they felt valued. Conversely, children in the control group had no reason to teach the teaching assistant about their sight words, so the children retained their initial funds of identity as learners rather than teachers.

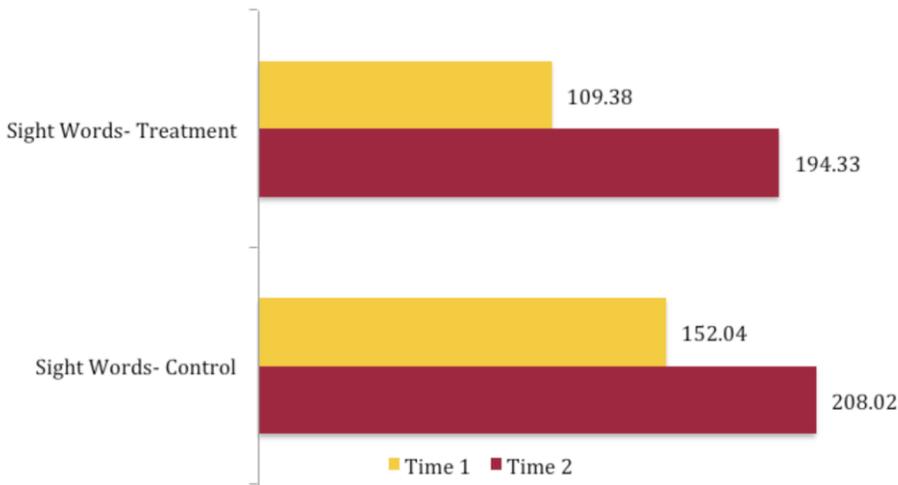
Results

This study employed a pretest-posttest control group design. Teachers administered the Developmental Reading Assessment two weeks before the intervention began and again at the conclusion of the intervention. Pakuna was not present on testing days. Only data from students who completed both the pre and posttests were included. Thus, data from one boy and two girls in Mrs. Cody's class and data from two girls in Mrs. Donovan's class were excluded because they did not meet these requirements.

On average, second graders in the treatment group recorded more growth in their sight word scores in comparison to second graders in the control group. For second graders in the treatment group, the predicted sight word score between the beginning and end of the school year increased from 109.38 (95%CI [85.20, 133.56]) to 194.33 [170.15, 218.52], an expected change of 78%. In contrast, for second graders in the control group, over the same period, the predicted sight word score increased from 152.04 [138.48, 165.59] to 208.02 [192.48, 223.56], only 37%. There was a significant main effect of treatment condition ($B = -42.66$, $s. e. = 14.15$, $p = .003$), and a significant main effect of time ($B = 55.99$, $s. e. = 7.85$, $p = .001$). Furthermore, there was a significant, positive interaction between treatment condition and time ($B = 28.97$, $s. e. = 14.21$, $p = .042$). See Figure 1.



Figure 1 *Second Grade Sight Words by Condition*



These findings add to the growing number of studies demonstrating that reading with a dog often has the greatest impact for children who begin with the lowest test scores (Connell et al., 2019). Kirnan, Siminerio and Wong (2015) found similar patterns for children with disabilities and children learning English as a second language. More recently, a meta-analysis (Reilly, Adesope & Erdman, 2020), a mixed methods study (Barber & Proops, 2019), and a qualitative study (Wintermantle, Grové & Laletas', 2024) also reported broader positive learning outcomes for children working with dogs in school.

Discussion

My findings show that children who were learning English and taught a therapy dog about sight words significantly increased sight word acquisition. These results are consistent with other studies that have demonstrated similar increases being greater for children who started the school year with the lowest reading scores (Connell et al., 2019; Fung, 2019; Kirnan, Siminerio & Wong, 2015). Research commonly credits a dog's nonjudgmental listening quality as the primary reason for children's academic and socioemotional improvement (Coffman et al., 2023; Fung, 2017). Indeed, this quality may lay the foundation for establishing a trusting relationship with the dog, but I theorize that the shift in children's funds of identity (from student to teacher) activated by honoring their funds of knowledge, that could be responsible for the greatest changes in student outcomes, particularly for preemergent bilingual students learning English. Thus, therapy dogs may be ideal candidates for this work because children, no matter their primary language, can view themselves as capable of teaching dogs.

Conclusion

This study sought to evaluate the impact of integrating a therapy dog into literacy activities designed to improve sight word acquisition among young children becoming bilingual in a Title I school in the southwest United States. More specifically, the study investigated whether teaching a therapy dog about sight words could tap students' funds of knowledge and shift their funds of identity to increase their sight word scores on a standardized reading test (DRA). Although both groups improved their scores over the course of the school year, the group who worked with the therapy dog made the greatest gains relative to their starting point. This finding is consistent with results from other studies mentioned above, but rather than crediting a dog's nonjudgmental listening, the method described here focused on activating children's funds of identity and knowledge. As predicted, empowering children to become teachers for the therapy dog improved their reading skills.



Limitations and Future Directions

More schools are including dogs on campus, and research continues to evaluate the efficacy of various dog-assisted interventions and the validity of those findings. In this study, where I intended to shift students' funds of identity, the children were not asked about their roles as teachers, so future research should investigate the children's perspectives about teaching the dog – beyond asking how much the students enjoyed spending time with the therapy dog. This study had a relatively small sample size, and future research should endeavor to include more children and dogs in similar studies as well as in cross-sectional and longitudinal designs. Additionally, when selecting participants, researchers should include other markers of identity too, potentially studying children with literacy-related disabilities such as dyslexia, behavioral challenges, and preemergent bilingual children. Further, because working with a therapy dog can improve fluency (Fung, 2019), researchers should investigate whether activating children's funds of identity and knowledge this way also improves fluency for struggling readers and preemergent bilingual children.

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References

- [1] Barber, O., & Proops, L. (2019). Low-Ability Secondary School Students Show Emotional, Motivational, and Performance Benefits when Reading to a Dog Versus a Teacher. *Anthrozoös*, 32, 503 - 518.
- [2] Beetz, A. M. (2017). Theories and possible processes of action in animal assisted interventions. *Applied Developmental Science*, 21(2), 139–149. <https://doi.org/10.1080/10888691.2016.1262263>
- [3] Beetz, A. M., & McCardle, P. (2017). Does Reading to a Dog Affect Reading Skills? In N. R. Gee, A. H. Fine, & P. McCardle, (Eds.), *How animals help students learn: Research and practice for educators and mental-health professionals* (pp. 111-123). Routledge.
- [4] Bibi, A., & Pujari, J. (2023). *MIER Journal of Educational Studies Trends & Practices*, 13(2), 336-355. DOI: 10.52634/mier/2023/v13/i2/2444
- [5] Bourdieu, P. (1973). Cultural reproduction and social reproduction in knowledge, education and social change: Papers in the sociology of education. R. Brown (Ed.). Tavisock, UK: Tavisock Publications.
- [6] Coffman, A. N., Bernstein, E. R., Davies, S. C., & Justice, A. F. (2023). The Impact of a Canine-Assisted Reading Program on Readers Needing Extra Practice. *The Reading Teacher*, 76: 724-734. <https://doi.org/10.1002/trtr.2192>
- [7] Connell, C. G., Tepper, D. L., Landry, O., & Bennett, P. C. (2019). Dogs in schools: The impact of specific human–dog interactions on reading ability in children aged 6 to 8 years. *Anthrozoös*, 32(3), 347–60. <https://doi.org/10.1080/08927936.2019.1598654>.



- [8] Dini, A. (2022). The importance of sight word recognition to improve reading fluency. *JELP: Journal of English Language and Pedagogy*, 1(2), 102-115. <https://doi.org/10.58518/jelp.v1i2.978>
- [9] Fung, S. C. (2017). Canine-assisted reading programs for children with special educational needs: rationale and recommendations for the use of dogs in assisting learning. *Educational Review*, 69(4), 435–450. <https://doi.org/10.1080/00131911.2016.1228611>
- [10] Fung, S. C. (2019). Effect of a Canine-Assisted Read Aloud Intervention on Reading Ability and Physiological Response: A Pilot Study. *Animals (Basel)*. Jul 24;9(8):474. doi: 10.3390/ani9080474. PMID: 31344815; PMCID: PMC6720266.
- [11] Hlava, T. (2023). Cultivating cultural capital with a therapy dog in a third-grade classroom. *International Journal of Social Pedagogy Special Issue*, 12(1): 13. DOI: <https://doi.org/10.14324/111.444.ijsp.2023.v12.x.013>.
- [12] Hogg, X. L., & Volman, M. (2020). A synthesis of funds of identity research: Purposes, tools, pedagogical approaches and outcomes. *Review of Educational Research*, 90(6), 862–95. <http://doi.org/10.3102/0034654320964205>.
- [13] Kirnan, J., Siminerio, S., & Wong, Z. (2015). The Impact of a Therapy Dog Program on Children's Reading Skills and Attitudes toward Reading. *Early Childhood Education Journal*, 44, 637-651.
- [14] Lane, H. B., & Zavada, S. D. W. (2013). When reading gets ruff: Canine-assisted reading programs. *The Reading Teacher*, 67(2), 87-95. <https://doi.org/10.1002/TRTR.1204>
- [15] Levinson, E. M., Vogt, M., Barker, W. F., Renck-Jalongo, M., & Van Zandt, P. (2017). Effects of reading with adult tutor/therapy dog teams on elementary students' reading achievement and attitudes. *Society & Animals*, 25(1), 38-56.
- [16] Llopart, M., & Esteban-Guitart, M. (2017). Strategies and resources for contextualising the curriculum based on the funds of knowledge approach: A literature review. *The Australian Educational Researcher*, 44, 255-74. <http://doi.org/10.1007/s13384-017-0237-8>.
- [17] Llopart, M., & Esteban-Guitart, M. (2018). Funds of knowledge in 21st century societies: Inclusive educational practices for under-represented students. A literature review. *Journal of Curriculum Studies*, 50(2), 145-61. <http://doi.org/10.1080/00220272.2016.1247913>.
- [18] Moore, E. G. J., Hlava, T., García, S., & Brem, S. K. (2013). Ever try teaching a dog to read? Implicit theories of reading ability. *Anthrozoös*, 26(3), 381-393. <https://doi.org/10.2752/175303713X13697429463637>.
- [19] Reilly, K. M., Adesope, O. O., & Erdman, P. (2020). The Effects of Dogs on Learning: A Meta-Analysis. *Anthrozoös*, 33(3), 339–360. <https://doi.org/10.1080/08927936.2020.1746523>
- [20] Taboada Barber, A., & Lutz Klauda, S. (2020). How reading motivation and engagement enable reading achievement: Policy implications. *Policy Insights from Behavioral and Brain Sciences*, 7(1), 27-34. <https://doi.org/10.1177/2372732219893385>
- [21] Valenzuela, A. (2005). *Beyond silenced voices: Class, race, and gender in United States schools*. (L. Weis & M. Fine, Eds.). State University of New York Press.
- [22] Volman, M., & 't Gilde, J. (2021). The effects of using students' funds of knowledge on educational outcomes in the social and personal domain. *Learning, Culture and Social Interaction*, 28, 100472. <https://doi.org/10.1016/j.lcsi.2020.100472>.



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- [23] Wintermantle, L., Grové, C., Henderson, L., & Laletas, S. (2023). Social and emotional therapy dog-assisted interventions in mainstream school settings: A systematic review. *The Educational and Developmental Psychologist*. DOI: 10.1080/20590776.2023.2256444.
- [24] Wintermantel, L., Grove, C., & Laletas, S. (2024). Children's perceptions of a therapy dog-assisted social and emotional learning intervention: Survey and interview findings. *Journal of Research in Childhood Education*, 1-20. <https://doi.org/10.1080/02568543.2024.2325470>
- [25] Wohlfarth, R., Mutschler, B., Beetz, A. M., & Schleider, K. (2014). An investigation into the efficacy of therapy dogs on reading performance in 6-7-year-old children. *Human-Animal Interaction Bulletin*, 2, 60-73. 10.1079/hai.2014.0013.