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Determining if Classroom Pets as part of an Empathy-Based Intervention Affect Public Elementary School Students' Empathy

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Elementary School Students' Empathy

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ABSTRACT

Determining if Classroom Pets as part of an Empathy-Based Intervention Affect Public

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The purpose of this mixed methods study was to determine if consistent exposure to classroom

pets in public elementary school classrooms affected children's empathy. The sample included

44 students (females = 22; males = 22; mean age = 8.3 years) from four third-grade classrooms.

A pre-test, post-test design was used to measure students' empathy levels, and percentage

changes in empathy scores were recorded for all groups. The sample was a convenience sample,

and random assignment to treatment groups was not possible. Treatment included using

classroom pet fish along with empathy-based lessons. Of the four participating classrooms, one

classroom was the Control Group, with no classroom pet and no lessons. A second classroom

was the Pet Only group (pet fish in the classroom, but no empathy-based treatment regimen).

The third classroom was the Lessons Only group, which had no pet but the students engaged in a

series of empathy-based mini lessons. The fourth classroom was the Pet+Lessons group, where

students cared for, and interacted with, the classroom pet fish in addition to participating in a 4-

week empathy-based treatment regimen.

Each group participated in pre- and post-tests using the Bryant Index of Empathy for Children

and Adolescents (Bryant, 1982), and the Lessons Only and Pet + Lessons group had four

consecutive weeks of empathy-based mini lessons (each lesson with an opportunity for

expansion through a project-based approach). This was followed by one week to reflect on the learning through final discussions and to re-administer the post-test.

After exposure to the classroom pet and the empathy intervention, the three treatment groups all experienced an increase in empathy, while the Control Group experienced a decrease, suggesting that classroom pets, project-based empathy lessons, or a combination of both all had a positive impact on children's empathy. Additionally, qualitative data in the form of interviews with classroom teachers, field notes from the researcher during empathy lessons, and examination of children's empathy journals was analyzed to gain more knowledge on teacher and student perspectives of teaching and learning empathy and working with a classroom pet. Results are discussed relative to future research and classroom practices.

DEDICATION

I would like to dedicate this dissertation to my parents, Randy and Reba, two of the strongest individuals I know. Thank you for always believing in me and encouraging me to pursue my dreams!

ACKNOWLEDGEMENTS

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Chapter 1. Introduction

How do we define empathy? In the 1957 film *Funny Face,* Audrey Hepburn's character explains, "Empathy is to project your imagination so that you actually *feel* what the other person is feeling…you put yourself in the other person's place" (Edens & Donen, 1957). Even Hollywood defined empathy, and over 60 years later, it is still an important factor in a person's social-emotional development. Similarly, empathy according to Webster's Dictionary is defined as "the feeling that you understand and share another person's experiences and emotions: the ability to share someone else's feelings" (Empathy, 2018).

This study focused on examining empathy in children. Certain factors have come up in the classroom, such as aggression, bullying, peer victimization, and students feeling disconnected and desensitized from the world around them. Is empathy becoming extinct? Are we in a compassion crisis? Now more than ever, with all the video games, technology, and social media, teachers in classrooms across the country are seeing these and other antisocial behaviors on a daily basis (Anderson & Bushman, 2001). How can we promote empathy and other prosocial behaviors in the classroom? This is a practical research problem requiring action.

This study examined if classroom pets, alone or in conjunction with project-based empathy lessons, can have any impact on students' prosocial behaviors, specifically measuring empathy. Pets have proven to increase prosocial interactions among people (Guttman, 1984), and they have been used in many different types of therapies. For instance, pets are especially beneficial to people who are experiencing a stressful time or change in their lives, such as the elderly or people living in nursing homes, patients in hospitals, military families, and individuals experiencing various adversities (i.e., a death or divorce), and even children with special needs (Sable, 1995; Sussman, 2016).

Because most research with pets has been done either in clinical settings or with pet ownership in the home, this research sought to bridge the gap and studied how a consistent classroom pet affects typically-developing children in public elementary school classrooms. Specifically, this research examined whether interactive exposure to a classroom pet, alone or in conjunction with project-based empathy lessons, had any influence on the children's empathy. Pre-test and post-test data measuring children's empathy levels on the Bryant Index of Empathy for Children and Adolescents (Bryant, 1982), along with observations and interviews from the classroom teachers, and collected work samples from the students in their empathy journals, was examined to answer this question.

This research is important because it can provide teachers with a tangible strategy to use in the classroom to battle against aggression and promote prosocial behaviors, like empathy, compassion, and responsibility. In addition, just as Hepburn said in the movie so many years ago, pets can help children to "project their imaginations" (Edens & Donen, 1957) and think about the world around them from a different perspective, as evidenced by the qualitative results of this study.

When we study early childhood development, we find the emerging theme of *perspective.* Through our knowledge on child growth and development, we understand that young children go through a phase of egocentrism—a term that Piaget described as an inability to understand a situation from another person's point of view, or perspective (Kesserling & Muller, 2011). Early childhood educators often try to help young children understand the perspectives of others as they navigate through the difficulties and challenges of everyday life in families, childcare settings, and later in their public elementary school classrooms.

As professionals in the field, we abide by, and advocate for, the National Association for the Education of Young Children's Code of Ethical Conduct where we support and value the perspective of the child's family, working to build family and community relationships (NAEYC, 2018). In order to truly possess the ability to understand others' perspectives—or as Hepburn's character said, to "put yourself in the other person's place" (Edens & Donen, 1957)— we must be able to *empathize.* The question is how do we implement strategies in the public elementary school classroom that will help teach our children exactly how to empathize or show empathy to others?

This research explores whether introducing a pet into the elementary school classroom (and then using that pet as part of the Project Approach in a series of empathy-based mini lessons) will result in children's increased empathy levels. This study, combined with an examination of the current body of research on this topic, should enhance awareness on the effectiveness and potential benefits of using classroom pets as strategies to strengthen children's social-emotional development, specifically empathy.

Importance of Empathy

In 1980, Barnett, King, Howard, and Dino described the ability to empathize as experiencing the emotions of others. They identified empathy as an important factor in children's moral development and expression of prosocial behaviors (Barnett et al., 1980). Forty years later, empathy is still an attribute of children that has proven to be highly relevant in both educational outcomes and later success in life (Feshbach & Feshbach, 2009). With a multitude of different factors (ranging from violent video games to social media, peer pressure, and political tensions), this topic is even more important for today's generation of children. Violent and aggressive antisocial behaviors among school-aged children have been observed by teachers

on a regular basis (Leff, Power, Manz, Costigan, & Nabors, 2001); the problem became so significant that schools integrated various types of violence prevention programs into their curriculums as an effort to reduce aggression and other antisocial behaviors (Sprinkle, 2008).

Bullying and peer victimization are not new trends; this sort of anti-social behavior has been going on in classrooms for generations. Even pop culture icon Dolly Parton—famous for her singing and songwriting skills, as well as her humanitarian efforts—endured her peers' bullying as a little girl growing up in 1950s rural Appalachia. She narrates these experiences in her song "Coat of Many Colors" as she remembers the other children laughing and making fun of her (Parton, 1970). The theme of *perspective* is embedded in the lyrics as she explains how the other children didn't understand it, though she tried to make them see (Parton, 1970). The story within the song's lyrics provides a wonderful context in which to discuss empathy with young children and how we can think from others' perspectives to understand how other people feel, and the book based on this song was used in some of the mini lessons on empathy that were part of this research intervention.

Researchers have identified an inverse relationship between empathy and aggression, especially among males (Feshbach & Feshbach, 2009). Studies have shown that empathy plays a vital role in children's abilities in mediating prosocial behavior *and* regulating aggression or other forms of antisocial behaviors, and this topic has remained popular among researchers from various fields (Feshbach & Feshbach, 2009; Leff et al., 2001; Sprinkle, 2008). In addition to the anti-violence prevention programs (Leff et al., 2001; Sprinkle, 2008), researchers have also designed and implemented empathy-based intervention programs, such as the Learning to Care Curriculum (1984), developed by Feshbach and Feshbach for elementary school-aged children. This curriculum consisted of activities systematically related to empathy training. Thus, the goal

of the current research study is to try to implement empathy training, integrating classroom pets into the curriculum through a project-based approach in an effort to facilitate prosocial attitudes among students.

Importance of Pets

Previous research found that being in the presence of an animal reduces anxiety and encourages interactions among people (Schneider & Harley, 2006). Furthermore, pets can often provide attachment components that help contribute to an individual's emotional and social well-being (Sable, 1995). Using Bowlby's theoretical framework on attachment, Sable (1995) studied pets, attachment, and well-being across the life cycle and found that pets are a source of comfort and help reduce feelings of loneliness. In particular, Sable (1995) recognized that pets benefit the elderly, individuals going through a life transition, or clients in clinical settings—especially when the clients are experiencing stressful periods of adversity, such as bereavement or divorce. Sussman (2016) also recognized pets as being extremely beneficial for the elderly, specifically nursing home residents, and for military families. If we have evidence that pets have proven to be advantageous for individuals in these various contexts and settings (Sable, 1995; Schneider & Hartley, 2006; Sussman, 2016), why are we not utilizing pets in classrooms as a way to enhance children's prosocial attitudes in an effective, more project-based approach to teaching empathy?

According to Cain (2016), pets are of great importance and can serve as a support system for family members, and pet ownership is a widespread phenomenon in the United States. Pets not only have a special position in the family system, but they also serve a variety of purposes, including: providing a source of "pleasure, fun, and exercise," serving as a source of "physical security and protection," being an outlet for teaching children "responsibility and respect for life," and existing as a "catalyst for establishing human contact and interaction within the

family" (Cain, 2016, p. 6). Cain (2016) specifically studied pets as family members, and this research focused on making the pet an important part of the classroom family in an attempt to duplicate the findings of Cain (2016).

In the book *Pets and the Family,* Sussman (2016) describes implications for pets and the socialization of children. Examining children and their pets has been a common topic of research when looking at social-emotional development and attachment (Cain, 2016; Sable, 1995; Schneider & Harley, 2006; Sussman, 2016); however, there is very little evidence that examines how a *classroom* pet (one of the independent variables in this study) can affect children's empathy (dependent variable). The hope is that by introducing an intervention with the classroom pet in a project-based manner, teachers will have a strategy to try to combat aggression and promote compassion in their classrooms.

The Project Approach

Recognizing the importance of empathy and how pets can be utilized as a tool to promote empathy among children are crucial pieces to this study; however, another important piece is how this can be done in a classroom setting. In this research students in 2 of the treatment groups engaged in an empathy-based treatment regimen consisting of a series of mini lessons with opportunities to expand into long-term project work. This aspect of the study relates to the Project Approach (Helm & Katz, 2016; Katz & Chard, 1992), in which students study a particular topic or theme over an extended period.

Project work unfolds based on the responses, reactions, and interests of the children, and often lessons integrate multiple content areas. Because the children have an interest in the topic, students generally remain engaged or focused on the project over time. Helm and Katz (2016)

discuss the importance of "young investigators" keeping a journal to document their learning over the course of the project. Important aspects from the Project Approach that can be implemented easily into a third-grade classroom setting are: facilitating open-ended conversations with children to assess their prior knowledge, planning next steps via webs or Thinking Maps, and documentation through direct responses during the learning process.

Significance of the Study

A study such as this one is justified in that antisocial behaviors among young children, along with different forms of peer victimization, are valid and significant concerns for professionals in the field of education (Feshbach & Feshbach, 2009; Leff et al., 2001; Sprinkle, 2008). Thus, this is a practical research problem that would require action research (Creswell, 2015), and there is a need to find effective strategies teachers can easily implement in their classrooms in an effort to help alleviate this issue.

Creswell (2015) explains that the purpose of action research is to "address an actual problem in an educational setting" (p. 586). Researchers study practical issues that will "have immediate benefits for education" (Creswell, 2015, p. 586). Antisocial behaviors in the classroom is an actual problem, and giving the students a classroom pet and/or project-based empathy lessons could be an immediate benefit as both a prime opportunity to teach the children prosocial behaviors, like empathy, compassion, and responsibility.

There is evidence from previous studies (Anderson & Olson, 2006; Sprinkle, 2008) that exposing children on a limited basis to animals in classroom settings can have positive effects on their prosocial behaviors (i.e., increased levels of empathy and decreased instances of aggression or outwardly violent behaviors). Therefore it is beneficial to study how a consistent, long-term

classroom pets can become an integral part of the classroom community—or family. Pets have

proven to be beneficial in increasing prosocial attitudes and behavior in other contexts or settings

(Cain 2016; Sable, 1995; Schneider & Hartley, 2006; Sussman, 2016), so it is logical to assume

that incorporating a pet into the classroom could potentially be an effective strategy to enhance

empathy in children in a school setting. Additionally, empathy is identified as an important

construct in a person's social-emotional development and well-being, therefore working with

students through project-based empathy lessons could also be beneficial. Thus, by using a

classroom pet and/or project-based empathy lessons as a way to promote empathy among young

children, there are projected benefits for the students and teachers who participate in this study.

Research Questions

The purpose of this study is to answer the following questions:

· *Overarching question* – Will the introduction of a classroom pet, combined with

project-based support, affect children's empathy? The research hypothesis predicts that empathy-

based treatment, regardless of whether it is the pet, the lessons, or a combination of both, will

increase empathy levels significantly among the participants.

· *Supporting Question #1* – Is doing anything better than nothing? The hypothesis is that

doing something, no matter what type of treatment a group receives, will significantly increase

participants' empathy levels. It is predicted that a noticeable increase will be seen in the empathy

levels from the three groups that receive treatment (the Pet Only, Lessons Only, and Pet +

Lessons groups), but not the Control Group that will receive nothing.

· *Supporting Question #2* – Does the type of treatment matter? The four participating

classrooms each will receive four different types of treatment: no treatment at all in the Control

Group, exposure only to the pet fish in the Pet Only group, participation in lessons only in the

Lessons Only group, and a combination of engagement with the pet and participation in lessons

in the Pet + Lessons group. It is predicted that the group with the most intervention or highest

level of treatment (the Pet + Lessons group) will experience the greatest increase in empathy

levels.

Definitions of Key Terms

The following terms will be used and are defined for the purposes of this research study:

- *Aggression* "implies the infliction of injury that may cause pain and distress" (Feshbach & Feshbach, 2009, p. 87) and is defined as "hostile or violent behavior or attitudes toward another; readiness to attack or confront" (Aggression, 2019).

- *Animal-assisted therapy* is a "goal directed intervention in which an animal meeting specific criterion is an integral part of the treatment process" and is "designed to promote involvement in human physical, social, emotional, or cognitive function" (American Veterinary Medical Association, 2019). Moreover, AAT can be provided "in a variety of settings, and may be group or individual in nature" (American Veterinary Medical Association, 2019).

- *Antisocial behaviors* are "disruptive acts characterized by covert and overt hostility and intentional aggression toward others" (https://www.encyclopedia.com/medicine/psychology/psychology-and-psychiatry/antisocial-behavior, retrieved April 11, 2019).

- *Egocentrism* is a Piagetian term that describes the inability to view the world from the perspectives of others (Kesserling & Muller, 2011).

- *Empathy* is "the feeling that you understand and share another person's experiences and emotions: the ability to share someone else's feelings" (Empathy, 2018).

- *Pet ownership* is defined by the American Veterinary Medical Association (2019) as "lifelong care of the pet" and "committing to the relationship for your pet's entire life."

- *Prosocial behavior* is "any action intended to help others," and is commonly associated with "the desire to help others with no expectation of reward" (Boyd, 2013).

- The *Project Approach* is defined as an approach to early childhood education in which "an extended investigation of a topic that is of interest to participating children and judged worthy of attention by their teachers" (Katz & Chard, 1992, p. 3) occurs over an extended period.

Summary

Chapter 1 outlined the importance of empathy and the importance of pets with regards to prosocial behaviors. Also mentioned in this chapter was the Project Approach, described as an in-depth investigation on a central topic or theme in the classroom over an extended period of time (Helm & Katz, 2016; Katz & Chard, 1992). The significance of the study was stated, research questions were presented, and key terms used within the research were defined. The overarching goal of this research study is to determine if exposure to classroom pets, combined with an empathy-based treatment regimen, affects public elementary school-age children's empathy. Chapter 2 provides a review of current literature regarding theory, empathy, and pets.

Chapter 2.   Review of Literature

Theoretical Framework

According to Creswell (2015), the theoretical lens serves as a "guiding perspective or ideology that provides a structure for advocating for groups or individuals writing the report" (p. 629). The theoretical framework for this study is built upon Jean Piaget's cognitive theory of development, the theory of constructivism, and Lilian Katz's Project Approach. The work of Jean Piaget is relevant to the study because his theory on cognitive development describes egocentrism as an inability to view the world from the perspectives of others (Kesserling & Muller, 2011), which is an essential skill in order for an individual to develop *empathy*. Constructivist theory (Castle, 2012; Kroll et al., 2005), along with Lilian Katz's Project Approach (Helm & Katz, 2016; Katz & Chard, 1992), provided the framework for how to set up, design, and implement an empathy-based treatment regimen, which is the key component of this study.

Piaget

In 1956, Piaget and Inhelder conducted an experiment using synthetic mountain landscape models to determine if young children were capable of understanding another person's perspective. Borke (1975) revisited this experiment in his article "Piaget's mountains revisited: Changes in the egocentric landscape." The gist of each of these experiments was to show 3- and 4-year-olds scaled-down model representations of mountain landscapes from a certain viewpoint—or perspective—then having the researcher pose questions that would assess whether the children possessed the ability to think about or understand the world around them from a different perspective (Borke, 1975; Piaget & Inhelder, 1956). Egocentrism emerged as one piece of Piaget's theory of cognitive development thanks to this experiment, and it became a Piagetian

term that describes the lack of ability to view the world from the perspectives of others (Kesserling & Muller, 2011).

To assess the children's perspective-taking capabilities, researchers (Borke, 1975; Piaget & Inhelder, 1956) had participants sit down at a table with a model of three mountains; each child was positioned to sit either in front of, or at a different angle to, the mountain model. A toy doll was placed in various positions within the model. Once the toy doll was placed, researchers showed children pictures of the mountains from various viewpoints, and children were asked to pick the correct picture to represent what the doll would see. If the child selected the correct picture, Piaget and Inhelder (1956) assessed the child was no longer egocentric, because they demonstrated the ability to think from another person's—or doll's—perspective. What Piaget and Inhelder (1956) determined in their study was that 3- and 4-year-olds almost always chose the picture that represented what they saw themselves (consistently representing their own viewpoints), but by 7 years old, children were able to see or imagine perspectives different from their own.

With Borke's (1975) study, 22 children were included in the sample, and results suggested that the younger children (age 3) had an inability to think about the mountain model from any perspective other than their own viewpoint, or where the researcher had originally sat them down or positioned them. Older children (age 4) began to understand and think about the concept that they could physically stand up and move around the mountain model, making it possible for them to look at this model from different viewpoints and perspectives (and easier for them to select the correct picture that represented the viewpoint of the toy doll). By physically standing up and moving around the model to change their viewpoints, the children could now see things from the toy doll's perspective that they could not before.

These experiments and the idea of egocentrism symbolically illustrate how as individuals, sometimes it can be hard to see the world from a point of view other than our own, but once we alter our perspective, we gain new knowledge and understanding about the world around us that we might not have known or understood before. By modifying our perspective to try to understand the viewpoints of others, we, in turn, begin to develop a sense of *empathy*, the ability to "put yourself in the other person's place" (Edens & Donen, 1957). This Piagetian task with the mountain model assessed if children could *literally* put themselves in another person's—or doll's—place (Borke, 1975; Piaget & Inhelder, 1956).

      Constructivist Theory and the Project Approach. Piaget advocated for offering children opportunities to work within their environment, where they were engaged and able to investigate, explore, and actively construct meaning about the world around them. His theory on cognitive development was rooted in constructivism: constructivist theory includes principles in teaching and learning involving the students, having them actively construct their own knowledge and understanding in the classroom. In other words, we see aspects of constructivist theory in classrooms when "active involvement in the construction of meaning" is evident (Kim, 2014, p. 538). Ideally, constructivist teachers are able to connect their own philosophies to "the theoretical understanding that prior knowledge, culture, and social context affect the specific learning and development of an individual" (Kroll et al., 2005, p. 71). By having a pet in the classroom, the environment will be prepared for opportunities that will allow children to explore and bond with that pet in a constructivist manner. According to the literature, the children's prior experiences with pets or animals, their individual cultures, and the social context of the experiment will all be variables affecting the potential outcomes of the intervention's success.

Another thread to consider in addition to simply integrating the pet into the classroom environment is using the Project Approach (Helm & Katz, 2016; Katz & Chard, 1992) in combination with constructivist teaching principles to design and implement the empathy-based treatment regimen, or small series of mini lessons on empathy. Using a more project-based, constructivist approach to teaching, children are viewed as "active constructors of knowledge" rather than "passive recipients of knowledge handed down by the teacher" (Castle, 2012, p. 44). Although the Project Approach will not be implemented in its entire three phases as Helm and Katz describe (2016), features from this approach will be used throughout the study. Aspects such as following the interests of the students, facilitating open-ended discussions, posing critical-thinking questions, setting up learning provocations, and using documentation (webbing, journaling) are project-based inspiration for creating and implementing the empathy lessons.

Empathy

Other than Hollywood writers of the 1950s providing Audrey Hepburn's *Funny Face* (1957) character with a quick and witty explanation of empathy to entertain moviegoers, scholarly researchers in the fields of psychology, sociology, and education have worked to operationally define the term *empathy* for many years; yet, this is a more abstract term that can be hard to measure. In a 1972 article, Mehrabian and Epstein provided two different explanations of how to define empathy. The first was Dymond's (1949) cognitive role-taking approach, which asserted that empathetic people can "imaginatively take the role of another" (Mehrabian & Epstein, 1972, p. 1). The second way of defining empathy was when a person has a "vicarious emotional response" to the "perceived emotional experiences of others" (Mehrabian & Epstein, 1972, p. 1). Each of these two definitions accurately correlates with the *Funny Face*

(1957) definition, in which empathy was to "project your imagination so that you actually *feel* what the other person is feeling" (Edens & Donen, 1957).

Mehrabian and Epstein (1972) worked together to create an instrument to measure empathy: the Mehrabian and Epstein Emotional Empathy Scale (1972) is a tool that researchers still use in their quest for measuring empathy today. This scale treats empathy as "the tendency to respond emotionally to the experiences of others" (Davis, 1983, p. 118). Mehrabian's and Epstein's scale (1972) is a pencil-paper questionnaire that asks participants about a variety of possible emotional reactions based on experiences that adults might typically experience in their day-to-day lives. Similarly, a scale specifically designed for use with young children or adolescent participants was created a decade after Mehrabian's and Epstein's: the Bryant Index of Empathy for Children and Adolescents (Bryant, 1982). Adaptations from these scales are frequently used as measures in studies currently examining empathy.

In the 1982 article, "An Index of Empathy for Children and Adolescents" by Brenda Bryant, the author's purpose was to assess the reliability and validity of the new scale. The reason for the scale's creation was that previous models were available to use with adults (Mehrabian & Epstein, 1972); however, the Bryant (1982) scale was designed to accommodate a wide range of both children and adolescents. Bryant's (1982) 22-item, pencil-paper questionnaire, or scale, was helpful in understanding empathy in its relation to children's social development. This scale was developed and deemed a valid and reliable tool to use to assess children's empathy measures. Measures of rigor included: using the scale with 56 first graders, 115 fourth graders, and 87 seventh graders; running item means, item-total correlations, test-retest reliabilities, multiple tests of correlation (i.e., examining the relationship of empathy to aggression); and comparing this index (Bryant, 1982) to other existing empathy measures in

order to prove construct validity. Results indicated that the Bryant Index of Empathy for

Children and Adolescents (1982) yielded satisfactory reliability and construct validity. This

scale (Bryant, 1982) added to the existing body of research in that it provided a new method to

measure empathy with children and adolescents.

Empathy as a Set of Constructs

The work of Mehrabian and Epstein (1972) was cited in an article that examined empathy

further. Davis (1983), primarily working with college-age students, measured individual

differences in empathy using a multidimensional approach, and explained, "Empathy in the

broadest sense refers to the reactions of one individual to the observed experiences of another"

(p. 113). Davis (1983) created and used a tool, the Interpersonal Reactivity Index (IRI), to assess

four different aspects of empathy, including measures of social functioning, self-esteem,

emotionality, and sensitivity to others. Davis' tool (1983) was a 28-item self-report measure

composed of four 7-item subscales that related back to some aspect of the general construct of

empathy. The four different subscales tend to consistently match with the previous definitions of

empathy examined so far (Davis, 1983; Edens & Donen, 1957; Mehrabian & Epstein, 1972).

The different subscales outlined by Davis (1983) in his IRI are perspective taking, fantasy

scale, empathetic concern, and personal distress. Perspective taking refers to the participants'

abilities to adopt the viewpoints of others (Davis, 1983), which was also a relevant point in the

Piagetian task assessing young children's egocentrism (Borke, 1975; Piaget & Inhelder, 1956).

In other words, Borke (1975) and Piaget and Inhelder (1956) investigated whether the children

could adopt the viewpoint of the toy doll. Similarly, Davis studied college-age participants'

abilities to take the perspectives of others. Fantasy scale (Davis, 1983) assesses participants'

abilities to "transpose themselves imaginatively into the feelings and actions of fictitious

characters in books, movies, and plays" (p. 114). Empathetic concern examines participants'

feelings of sympathy and concern for others experiencing unfortunate trials or tribulations.

Hepburn's *Funny Face* character explains that "empathy goes beyond sympathy; sympathy is to

understand what someone feels" (Edens & Donen, 1957), so it would make sense that sympathy

is one factor in determining an individual's overall measure of empathy. Finally, personal

distress evaluates participants' anxiety levels during tense interpersonal contexts or stressful

situations.

Davis (1983) had 677 male and 667 female college students all enrolled in introductory-

level psychology courses at the University of Texas as his participants. His procedures included

administering questionnaires and other psychological tests to the participants, all deemed to be

valid and reliable tools from previous studies on measuring empathy. Different possible tests

that were given to the participants included The Interpersonal Reactivity Index (Davis, 1983), the

Hogan Empathy Scale, the Mehrabian and Epstein Emotional Empathy Scale (Mehrabian &

Epstein, 1972), and the Wechsler Adult Intelligence Scale. Correlations were found between the

four subscales Davis (1983) used in his IRI and the other psychological measures he used for

comparisons.

Results (Davis, 1983) indicated that higher perspective-taking scores positively correlated

with social functioning and higher self-esteem. Higher fantasy scale scores were positively

correlated with participants' verbal intelligence scores from the Wechsler Adult Intelligence

Scale. No significant correlations were found with empathetic concern. Higher scores on the

personal distress scale indicated lower self-esteem and poor interpersonal functioning (Davis,

1983). A limitation of this study would be that the data consists only of correlations between the

one self-report measure (Davis's Interpersonal Reactivity Index, 1983) compared to the other

more well-known measures. Essentially, this study helped Davis (1983) to create a multidimensional construct of empathy.

Empathy in Children

The work of Davis (1983) is significant in that his tool, the Interpersonal Reactivity Index, helped to identify empathy as a set of constructs; we learned that instead of only one concrete definition, empathy is a more abstract set of constructs. Another article explained that the construct of empathy, in relation to prosocial behavior, embodies a number of characteristics necessary for psychological health in children (Dadds et al., 2007). "Empathy, and a lack of it, is an important construct in explanations of the most *appealing* and *appalling* aspects of human behavior" (Dadds et al., 2007, p. 111). As we recognize how important empathy is to one's own prosocial behaviors, how can we accurately measure empathy levels in young children? Traditionally, measures of empathy have relied heavily on either parent ratings, self-report, or other observational techniques (Dadds et al., 2007; Davis, 1983; Mehrabian & Epstein, 1972).

While Davis (1983) relied on self-reports from adult (college-age) participants to measure individual differences in empathy, Dadds et al. (2007) specifically studied empathy in children using parent ratings. The researchers sought to develop a valid tool to use when measuring children's empathy, and they created a brief parent-report measure of child empathy. Their tool, the Griffith Empathy Measure, was adapted from the Bryant Index of Empathy (1982). The researchers of this study (Dadds et al., 2007) present an interesting research perspective: they noticed that most studies on children and empathy relied solely on observational techniques from the researchers and self-report by the participants (usually young children to adolescents).

Therefore, they used the parent-report in their methodology to try to grasp a deeper understanding of the children's empathetic behaviors. They noted that empathy develops in the early childhood years and continues to evolve through adolescence (Dadds et al., 2007), which would be consistent with Piaget's findings from the egocentrism experiment (Borke, 1975; Piaget & Inhelder, 1956). Thus, this article provides evidence of why it is so important to offer young children opportunities to develop empathy during the formative early childhood years. Because researchers used multiple methods—the Griffith scale, the Bryant index, observations, self-reports, and parent-reports—the results from this study were thought to be valid and reliable.

Empathy in the Classroom.

Previous research has identified empathy as a construct (Dadds et al., 2007; Mehrabian & Epstein, 1972), or set of constructs (Davis, 1983), and because of these studies we know more about how to measure empathy via the use of self-reports, parent reports, and other observational techniques or questionnaires. Feshbach and Feshbach (2009) designed the Learning to Care Curriculum in 1984 as a tool to use with elementary school-age children with the goal of promoting empathy in the classroom. Their curriculum was geared toward trying to implement empathy training with activities and lessons in the classroom. When creating this curriculum, Feshbach and Feshbach (2009) used systematic activities to promote empathy among the students through problem-solving games, storytelling, having the children construct their own video recordings, and group discussions. Because these activities actively engaged the students, provided them with many choices, and integrated multiple content areas, the participants were exposed to a very constructivist, project-based approach. Students who participated in this particular curriculum became less aggressive and displayed more positive social behaviors (Feshbach & Feshbach, 2009), as evidenced by the observational techniques of the researchers.

Another tool for enhancing empathy in the classroom was the Citizen Curriculum (Hammond, 2006), which was developed for students ages 9 to 14. This program consisted of an activity-based teacher guide geared toward building positive relationships through the promotion of empathy. Activities in this curriculum included role-playing through a series of workshops where students used discussion, debate, and problem solving to address the challenges presented in the workshops (Hammond, 2006). Once again, we can see evidence of constructivist teaching principles because this curriculum actively involved the participants in their learning. The primary focus for Hammond's (2006) activity-based teacher's guide was to promote empathy, along with other prosocial attributes such as tolerance and cooperation.

An 8-week prevention program was used with seventh- and eighth-grade social studies students: The Curriculum Transformation Project, created by Feshbach and Konrad in 2001, sought to implement empathy training to problems of social justice as well as aggression (Feshbach & Feshbach, 2009). Aggression is one example of an antisocial behavior that negatively correlates with the prosocial behavior of empathy: as one's empathy levels increase, one's aggression levels should, in theory, decrease. The middle school students (primarily African American and Latino) who participated in this project experienced an increase in prosocial behavior and a decrease in antisocial behavior, specifically aggression (Feshbach & Feshbach, 2009).

Pets

Aside from looking at empathy and ways to define, measure, or promote it, a major component of this study is pets. It will be important to examine pets in terms of attachment and prosocial behaviors, pets and empathy, pets in prevention programs, pet ownership, and eventually classroom pets. Pets have proven to be useful in many different contexts, and they are

especially beneficial for people experiencing a stressful time or change in their lives (e.g., military families, the elderly or residents living in nursing homes, individuals going through a death or divorce, and children who are sick, hospitalized, or have a special need or disability). Most research with pets has been done in either clinical settings or with pet ownership in the home; thus, to bridge the gap, this study explored how children respond to consistent, interactive exposure to a pet in the classroom setting.

Pet Attachment and Prosocial Behaviors

There have been specific studies that examined the potential impacts of pets on self-esteem (Covert, Whiren, Keith, & Nelson, 1985; Davis, 1983). Having exposure to pets has been correlated to instances of higher self-esteem and self-concept, which are two important pieces to a person's social-emotional well-being and development (Covert et al., 1985; Poresky, Hendrix, Moiser, & Samuelson, 2011; Taylor & Kuo, 2006).

Pet Attachment and Empathy

In addition to being a positive impact on overall or general prosocial development, pet attachment can sometimes have a specific impact on empathy. Some studies have indicated that young children with a close bond to their pet scored higher on a measure of empathy versus children who had no pet, or had a weak relationship to their pet (Poresky, 1990; Vidovic, Stetic, & Bratko, 1999). Taylor and Kuo (2006) specifically discussed how children's perceived competence was related to their own attachment to a pet. Thus, empathy and prosocial behaviors seem to be positively correlated to children's exposure and interactions with pets (Covert et al., 1985; Porskey, Hendrix, Mosier, & Samuelson, 2011; Taylor & Kuo, 2006; Vidovic et al., 1999).

The work of Boat (2004) focused on how to assess a child's attachment to a pet or animal, analyzing children's previous experiences with those pets and other animals in general.

In one study, Boat's Inventory on Animal Related Experience (2004) was used to evaluate each participant's prior experiences with pets, revealing whether the participants had ever experienced attachment to a pet or other animal. This inventory (Boat, 2004) is a 10-item questionnaire with additional probing questions that examine children's previous experiences with pets. This tool (Boat, 2004) directly relates to constructivist theory because the literature (Castle, 2012; Kim, 2014; Kroll et al., 2005) on constructivism talks about recognizing that children's prior knowledge and previous experiences have a direct impact on their learning and construction of new knowledge.

Pets in Prevention Programs and Childhood Animal Cruelty

Because pet attachment can promote prosocial behaviors, influence measures of empathy, and potentially influence a decrease in aggression and other antisocial behaviors, different research studies have used pets specifically in various prevention programs. The Calgary Humane Society, or CHS, explored ways to develop programs that help young children develop skills, knowledge, and prosocial behaviors when it comes to the humane treatment of animals (Hounslow, Johnson, Kathan, & Pound, 2010). One of their programs had the goal of teaching social-emotional literacy to children and providing language skills that children can use appropriately to deal with anger, aggression, and emotional expression. Integrating literacy into the prevention program relates to constructivist teaching principles and project work (Helm & Katz, 2016; Katz & Chard, 1992).

Aggression has been a common thread in the literature, and aggression is defined as "the infliction of injury that may cause pain and distress" (Feshbach & Feshbach, 2009, p. 87). Aggression is observed as "hostile or violent behavior or attitudes toward another" (Aggression, 2019). Aggression is one component of antisocial behaviors, or "disruptive acts characterized by covert and overt hostility and intentional aggression toward others" (https://www.encyclopedia.com/medicine/psychology/psychology-and-psychiatry/antisocial-behavior., retrieved April 11, 2019). Moreover, aggression negatively correlates with empathy (Feshbach & Feshbach, 2009).

In the Hounslow et al. (2010) article, children were educated on the ***prevention of animal cruelty*** and violence as they were taught more constructive emotional release strategies, versus the destructive, more violent or *aggressive* antisocial behavioral outbursts. This particular article illustrates how animals can be a specific tool to combat aggression and promote more positive prosocial behaviors among young children (Hounslow et al., 2010). Prosocial behaviors can be described as actions intended to help others, with no expectation of reward (Boyd, 2013), and participants in the Hounslow et al. (2010) study began to understand this concept through interacting, bonding, and forming an attachment with the animals in the prevention program.

The tools that Hounslow et al. (2010) presented in their studies were the Bryant Index of Empathy (1982), used as a pre-test and post-test measure, and Boat's Inventory of Animal Related Experiences (2004), given to participants prior to receiving any treatment or intervention. Hounslow et al. (2010) had the goal of designing and implementing a program that would prevent animal cruelty and other forms of violence using animals from the Humane Society as part of the intervention or treatment.

It is interesting to think of *animal cruelty* in terms of an individual's empathy measure or overall social-emotional development. Sussman (2016) has a particular chapter on childhood cruelty to animals in *Pets and the Family,* and Boat's Inventory of Animal Related Experiences (2004) has several questions probing participants about cruelty toward animals (e.g., if the children have ever seen anyone mistreat an animal, or if they themselves have ever mistreated an animal). Some disturbing terms are also presented to participants in this inventory (Boat, 2004), such as asking the children about drowning, kicking, punching, or torturing animals. Boat's Inventory (2004) would not be developmentally appropriate because of the graphic nature of some questions. Although it would be beneficial to assess children's prior experience with animals, ethically, this tool could potentially do more harm than good.

It would be easy to make the cliché generalization that childhood cruelty to animals is a predictor of later, escalated aggression and violence. Yet, because it would not be valid or reliable to make these assumptions or generalizations about the whole population, we must turn to what the literature says. One study examined the relationship between childhood cruelty toward animals and aggressive behavior (Kellert & Felthous, 1985). These researchers conducted personal interviews with a sample of 152 violent criminals, nonviolent criminals, and non-criminals. Measures included a standardized, closed interview with open-ended questions lasting approximately 1 to 2 hours. After the interviews were conducted and the data was qualitatively analyzed, Kellert and Felthous (1985) found that childhood cruelty toward animals did occur significantly more frequently among the violent criminals versus the nonviolent or noncriminal participants.

Felthous and Kellert (1987) continued to study the relationship between childhood cruelty toward animals and later violence or aggression against people, and they determined that identification and understanding of this relationship could help facilitate early intervention and prevention as we work to understand impulsive violent or aggressive behaviors. Thus, prevention programs with pets are justified in that they serve the purpose of taking action to help alleviate issues associated with the practical research problem. This directly relates to what Creswell (2015) described as a practical research problem and an urgency to find solutions through action research to deliver immediate results to help fix the problem. Information such as this (Felthous & Kellert, 1987; Kellert & Felthous, 1985) helps to add justification to this study and why it is a significant, important topic in early childhood.

Pet Ownership

Aside from using pets in prevention programs in an effort to decrease antisocial behaviors, pet ownership in the home is studied in relation to helping children develop more prosocial behaviors. Sussman (2016) reported that according to a 1984 national survey, pet owners expressed more compassion for others and were generally more satisfied or happy with their lives as opposed to their non-pet owner counterparts (results obtained through self-report via the survey). The work of Sussman (2016) illustrates the extremely high prevalence of pet ownership among United States households and how pet owners reported positive feelings about their pets and pets' roles in families. This is important information to consider when thinking about the cultural context we learn about from constructivist theory (Castle, 2012; Kim, 2014; Kroll et al., 2005).

In the same 1984 national survey, respondents indicated that pets were a vital part of the development and socialization of children; moreover, respondents believed that families should try to own a pet while a child is growing up (Sussman, 2016). Empathy develops during a child's formative early childhood years and into adolescence, so advocating for pet ownership during childhood is something to consider. A number of studies have observed the potential effects of pet ownership on child development with positive results (Cain, 2016; Sable, 1995; Schneider & Harley, 2006; Sussman, 2016; Taylor & Kuo, 2006).

Pet Ownership versus Animal-Assisted Therapy (AAT). Generally, when thinking about research on the effects of animals or pets on children's development, there are two distinct categories. The impact of contact with pets in the home (pet ownership) and the impact of contact with animals trained specifically for use in therapy (animal-assisted therapy), which would occur in a clinical context or setting (Nimer & Lundahl, 2007; Taylor & Kuo, 2006) are often studied. *Pet ownership* is described by the American Veterinary Medical Association (2019) as committing to lifelong care for the pet's entire life. *Animal-assisted therapy* is a type of intervention where specific goals are set for participants, who work with animals that have met certain criterion (American Veterinary Medical Association, 2019). AAT can help participants with all domains of development; based on the goals that are set, the animal can be a tool to promote physical, social, emotional, or cognitive function (American Veterinary Association, 2019). Moreover, AAT can be provided in many different settings and can be implemented to participants either individually or in a group. (American Veterinary Medical Association, 2019).

For individuals with special needs (e.g., autism-spectrum symptoms, behavioral problems, emotional disorders, or other medically diagnosed impairments), routine pet

ownership is linked to beneficial results, and Animal-Assisted Therapy (AAT) has proven to be effective in certain studies (Nimer & Lundahl, 2007). A meta-analysis by Nimer and Lundahl (2007) identified 49 different studies on the effects of AAT. After reviewing the literature, these researchers concluded that, based on the current body of research, AAT had positive outcomes for participants in four different categories: autism, medical difficulties, behavioral problems, and emotional well-being. Recall, Sable (1995) and Sussman (2016) also found that pets can be beneficial for the elderly or nursing home residents, individuals experiencing some sort of stressor in their lives (e.g., death or divorce), and with military families or others going through a lifestyle transition. Because most studies focus only on pet ownership in the home or AAT in clinical settings with individuals with special needs, there is a deficiency, or gap in the literature. Most research studies focus only on these two aspects (pet ownership and AAT); thus, there is little evidence of the effects of a *classroom* pet on typically developing children's social-emotional development.

Animal-Assisted Therapy and Intervention. In the current body of research, several studies have used animal-assisted therapy with children to determine if exposure to animals influenced children's prosocial behaviors. One research study evaluated the effectiveness of an intervention program using rescued shelter dogs (Sprinkle, 2008). This study examined if the intervention (a school-based violence prevention/intervention and character education program that used rescued shelter dogs to teach antiviolence and prosocial behaviors to elementary and middle school students) would have any effect on children's normative beliefs about aggression, levels of empathy, and displays of outwardly violent behaviors. This article continues the discussion of using pets as a tool to try to decrease levels of aggression and increase levels of empathy.

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Sprinkle (2008) studied animals, empathy, and violence to determine if animals could convey, or teach, principles of prosocial behaviors to children—similar to what Hounslow et al. (2010) did with the rescue shelter animals from the humane society in their prevention program. The measures Sprinkle (2008) used in her study with middle-school-aged children were self-reports by the students and observational data from the teachers. Sprinkle (2008) collected data before and after the students' exposure to the treatment—the program—to examine whether the treatment had any impact on the students' beliefs on prosocial behaviors. Her findings were that receiving the program significantly affected the students' prosocial beliefs.

The value of a dog in a classroom of children with severe emotional disorders was the focus of Anderson and Olson's (2006) study. Anderson and Olson (2006) decided that their treatment would consist of an 8-week period with the dog in the classroom. Participants in the Anderson and Olson (2006) study were six children in a self-contained classroom, all of whom had a diagnosis of some type of severe emotional disorder. Measures used in this qualitative study included observational data along with interviews with the children and their parents. This study used qualitative data via interviews; whereas, other studies used quantitative tools such as the different empathy scales (Bryant, 1982; Davis, 1983; Feshbach & Feshbach, 2005; Mehrabian & Epstein, 1972). The researchers found that the dog's presence did contribute to students' overall emotional stability while improving students' attitudes toward school. Researchers determined that exposure to the animal helped to facilitate students' learning lessons in responsibility, respect, and empathy (Anderson & Olson, 2006).

Classroom Pets

If dogs are not a logistical possibility to use as a classroom pet in public elementary

school classrooms, what does constitute a suitable cuddly classroom companion? According to

the article *Caring for animals: A guide to animals in the classroom* (AALAS Foundation, 2011),

if a teacher is thinking of adopting a classroom pet, there are several things to consider.

Specifically, why do you want a pet in the classroom, how will this pet be cared for on a daily

basis, and who will be responsible for the care and maintenance of this pet? Having a classroom

pet is a huge commitment and responsibility. There are important variables that affect whether a

teacher could accommodate a classroom pet. Each individual school's policy on having

classroom pets, informing parents about the type of pet being considered, potential health

problems that students could develop (primarily allergies or asthma), a teacher's physical

classroom environment (there are specific temperature and humidity guidelines for housing a

classroom pet), and a teacher's own willingness and ability to care for and maintain the animal

seven days a week, even on holidays and during school closures, are all factors.

Why Do You Want a Pet in the Classroom? The AALAS Foundation (2011)

discourages teachers getting a classroom pet if they simply want to engage students or teach kids

responsibility; instead, teachers should adopt a classroom pet if they want to share their love of

animals with their students, or if they have specific learning objectives that will be met by having

an animal in the classroom. It is advised to include students in the decision-making process as a

way for them to develop a sense of "ownership and responsibility toward the pet" (AALAS

Foundation, 2011, p. 3). This notion is consistent with constructivist principles on involving

children in the decision-making and learning process.

How Will This Pet Be Cared For on a Daily Basis, and Who Will Be Responsible?

Ultimately, the teacher must be willing to accept the responsibility of caring for and maintaining

the classroom pet on a regular basis. It is suggested that students' families in the classroom can

care for or "adopt" the pet on weekends or over holiday breaks. The AALAS Foundation (2011)

discusses students being involved in pet care duties and warns teachers about the honeymoon

syndrome—in which caring for the animal is viewed as fun at first, and then later may be

perceived as a chore that students lose interest in. Especially for a project on empathy, it would

be important to associate pet care with learning experiences integrated into the curriculum "on a

continuing basis" (AALAS Foundation, 2011, p. 3).

In addition to deciding on what type of pet to use and developing an approved plan for

the daily care and upkeep of the classroom pet, the biggest obstacle noticed was how to address

the potential harm to participants for having a pet in the classroom. According to the AALAS

Foundation (2011), "housing animals in a classroom can increase the risk of allergic reactions in

susceptible students," and "allergies are a leading cause of chronic disease in children" (p. 5).

Particularly, animal dander has been identified as a potential source of allergens to which

children can be exposed by "directly handling the animals or by airborne particles" (AALAS

Foundation, 2011, p. 5). Because other animals create risks for biting, scratching, and carrying

salmonella, it is fair to say that there are associated potential risks no matter what animal is

selected.

The AALAS Foundation guidelines (2011) specifically instruct teachers to inform

parents in advance so that they will be alerted if there are students with allergies; thus, it is

recommended to send home consent forms as an effort to protect all participants from the

allergen exposure. A question came up on what would one do if the student had an unknown allergy that surfaced after being exposed to the classroom pet; to address this potential risk, it was stated that if this situation did occur, the animal would be removed from that classroom immediately to avoid potential harm to children.

Although there are risks and different obstacles to overcome, "having a pet in the classroom can be a rewarding educational experience for students and teachers" (AALAS Foundation, 2011, p. 2). Students would have opportunities to interact with the animal, which would serve as a resource for learning about the behavior, biology, and basic needs of a living creature. Great learning experiences are associated with having pets in the classroom: "animals help students develop observation skills, *empathy*, and respect for living things" (AALAS Foundation, 2011, p. 4). Classroom pets can be integrated into the curriculum in many ways (AALAS Foundation, 2011). One can integrate social studies by learning about the species' country of origin. Math and science are integrated by measuring, charting, and recording food and water consumption. Literacy is integrated through researching stories about the particular type of animal or having students write their own stories about the pet.

Marotz (2015) recognizes pets as a special classroom addition, but also emphasizes the fact that certain steps must be taken to ensure the experience is safe for both the children and the animals. Just like the AALAS Foundation, the text book *Health, Safety, and Nutrition for the Young Child* focuses on allergies as an important consideration for teachers having pets in the classroom, and children's allergies should be considered before making the pet a "permanent classroom resident" (Marotz, 2015, p. 221). This source advises teachers to make sure any

animals brought into the classroom are disease-free and have had current immunizations if needed (Marotz, 2015).

Marotz (2015) explains how certain types of reptiles are known carriers of communicable illnesses (such as salmonella or E. coli) and are, therefore, deemed to be inappropriate to live in the classroom. The main goal is to find a classroom pet whose consistent *exposure* will not harm children or other teachers in the room. Marotz (2015) instructs teachers to post instructions for the animal's care where it is visible to all staff.

One of the NAEYC (2018) standards is for teachers to understand child growth and development, and Marotz (2015) points out that young children can often be "curious" or "overly exuberant" (p. 221). Because we know that young children developmentally tend to be this way, teachers must also take precautions to protect the pet from students who might accidentally hurt the animal (Marotz, 2015). Children working with classroom pets should be taught about responsible learning (Evanshen & Faulk, 2011) and how to appropriately handle and interact with the pet. The teacher, just like with any new material introduced into the classroom, will need to talk openly with the children about appropriate care and model how to interact with the new pet.

Conclusions From the Literature

Studies examined from this literature review provide strong evidence that exposure to pets (Cain, 2016; Sable, 1995; Schenider & Hartley, 2006; Sussman, 2016) and Animal-Assisted Therapy (Anderson & Olson, 2006; Hounslow et al., 2010; Sprinkle, 2008) can result in positive, advantageous outcomes for young children. However, there is a deficiency in the literature on studying outcomes on children intimately attached to a classroom pet. This study helps fill this

gap, as it focuses specifically on the effects of a classroom pet on children's prosocial attitudes with a specific emphasis on empathy. Because violence and aggression are factors teachers are trying to combat in the classroom (Feshbach & Feshbach, 2009; Leff et al., 2001), this is a practical research problem (Creswell, 2015), and there is a justified need for intervention programs that promote prosocial behaviors, and this research can help add to the existing body of literature. Chapter 3 will address all methods and procedures for this study.

Chapter 3: Methodology

The purpose of this research study is to determine if the addition of a classroom pet in public elementary school classrooms, combined with the implementation of a project-like learning approach, will have any impact on young children's empathy. Specifically, will using classroom pets as a project topic or theme cause children to experience an increase in levels of empathy? The specific goals of this research are to: 1) examine whether exposure and interaction with a classroom pet can have any impact on public elementary school-age children's prosocial behaviors, specifically empathy; 2) implement an empathy-building treatment regimen or intervention in the form of 4 empathy-based lessons using inspiration from the Project Approach (Helm & Katz, 2016); 3) collect data from the control group and three treatment groups to determine if the intervention influenced participants' self-reported measures of empathy using the Bryant Index of Empathy for Children and Adolescents (1982); and 4) to advocate for the use of pets with young children in early childhood classrooms.

Research Questions

According to Creswell (2015), research questions help narrow the purpose statement. The purpose of this study is to answer the following research questions:

Overarching Research Question: Will exposure to a classroom pet and project-based lessons on empathy affect children's empathy levels? The research hypothesis predicts that empathy-based treatment, regardless of whether the treatment is in the form of the pet, the lessons, or a combination of both, will positively affect children's empathy significantly. This will be evidenced by students' pre-test and post-test scores measuring their empathy levels using the Bryant Index of Empathy for Children and Adolescents (1982).

Supporting research questions that will help to extract information specifically related to the overarching research question are:

Supporting Question 1: Is doing anything better than nothing? There are varying levels and intensities of treatment or intervention in this study. The three groups receiving treatment will be assigned one of the following types of intervention: pet only with no lessons, lessons only with no pet, or a combination of pet plus lessons. It is predicted that doing something—regardless of which type of intervention—will significantly increase empathy levels. To answer this question, descriptive statistics will be used to show the difference observed in mean empathy scores from each of the groups.

Supporting Question 2: Does the type of treatment matter? The hypothesis is that the group with the most treatment (in this case, the Pet + Lessons Group) will experience the most significant increase in empathy levels. To address this question, a repeated measures analysis of variance, or ANOVA will be used to examine differences between and within groups.

Data Collection Procedures for a Mixed Methods Study

In order to best answer the overarching and supporting research questions, certain data collection procedures were implemented to support the purpose of the study. This study, although exhibiting characteristics of a quasi-experimental design, could be described as a mixed methods study because of the data collection procedures that were used. Creswell (2015) explains that mixed methods studies simply use more than one method of data collection.

In this case, both quantitative and qualitative methods were used to obtain data. The quantitative measure included students participating in a pre-test, post-test design using the 22-item Bryant Index of Empathy for Children and Adolescents (1982). Students' pre-test and post-test scores were compared statistically to see if there were changes in empathy levels before and

after intervention. The qualitative methods consisted of conducting teacher interviews at the end

of the study to gain a deeper perspective of how the study affected the children, using work

samples from the children's own empathy journals which documented their progression of

learning from the first to the fourth empathy lesson, and the researcher's own anecdotal records

summarizing each empathy lesson, including direct quotes from the children during each lesson.

In order to achieve triangulation of the data (Creswell, 2015), the empathy scores, teacher

interviews, student work samples, and anecdotal field notes were used to corroborate the

evidence.

Participants

Forty-four third-grade students (along with 4 third-grade classroom teachers and 1 school

guidance counselor) participated in the study. To be eligible to participate in the study,

classroom teachers signed a Teacher Consent Form, and students returned a signed Parental

Permission Form from their parent or guardian, along with providing their own consent (Child

Consent Form). All 44 students were from the same public elementary school in 4 different third-

grade classrooms in Northeast Tennessee. Demographic information for all 44 students is

presented in Table 1. The student demographic table includes information on students' sex, age,

and pre-test/post-test scores on the empathy measure (Bryant Index of Empathy for Children and

Adolescents, 1982).

Table 1.

Student Demographic Information

Group	Participant	Sex	Age	Pre-test Score	Post-test Score
Control Group	Student 1	Male	8 years	54.55%	27.27%
	Student 2	Female	9 years	68.18%	68.18%

	Student 3	Male	8 years	59.09%	59.09%
	Student 4	Female	9 years	59.09%	45.45%
	Student 5	Male	9 years	72.73%	63.64%
	Student 6	Female	8 years	68.18%	86.36%
	Student 7	Male	9 years	72.73%	59.09%
	Student 8	Female	8 years	77.27%	86.36%
	Student 9	Male	8 years	68.18%	68.18%
	Student 10	Female	10 years	86.36%	81.82%
	Student 11	Female	8 years	77.27%	81.82%
	Student 12	Female	8 years	86.36%	95.45%
Pet Only Group	Student 1	Male	8 years	36.36%	50.00%
	Student 2	Female	9 years	59.09%	59.09%
	Student 3	Male	8 years	72.73%	77.27%
	Student 4	Female	8 years	59.09%	81.82%
	Student 5	Male	9 years	63.64%	63.64%
	Student 6	Female	9 years	36.36%	45.45%
	Student 7	Male	8 years	40.91%	63.64%
	Student 8	Female	8 years	27.27%	40.91%
	Student 9	Female	8 years	72.73%	68.18%
	Student 10	Female	8 years	72.73%	81.82%
Lessons Only Group	Student 1	Male	8 years	50.00%	50.00%
	Student 2	Female	8 years	81.82%	90.91%
	Student 3	Male	8 years	86.36%	95.45%
	Student 4	Female	8 years	81.82%	81.82%
	Student 5	Male	8 years	63.64%	63.64%
	Student 6	Female	9 years	77.27%	81.82%
	Student 7	Male	9 years	68.18%	63.64%
	Student 8	Male	9 years	45.45%	36.36%
	Student 9	Male	9 years	59.09%	90.91%
	Student 10	Male	8 years	59.09%	63.64%

	Student 1	Male	8 years	36.36%	59.09%
	Student 2	Female	8 years	63.64%	54.55%
	Student 3	Male	8 years	90.91%	86.36%
	Student 4	Female	8 years	50.00%	59.09%
Pet +	Student 5	Male	8 years	54.55%	54.55%
Lessons	Student 6	Female	8 years	86.36%	86.36%
Group	Student 7	Male	8 years	95.45%	90.91%
	Student 8	Male	8 years	68.18%	81.82%
	Student 9	Male	8 years	63.64%	72.73%
	Student 10	Female	8 years	86.36%	72.73%
	Student 11	Female	8 years	72.73%	77.27%
	Student 12	Female	8 years	40.91%	59.09%

Note – Reported age is the child's age at the beginning of the study.

Sampling Technique

This was a sample of convenience since the intervention required teachers to add a pet to their classroom curriculum. According to Creswell (2015), convenience sampling is a "quantitative sampling procedure in which the researcher selects participants because they are willing and available to be studied" (p. 619). This was essential—to find teachers who were "willing and available" to have a pet added to their classroom(s) and to allow their students to participate in the empathy lessons. It was important to find teachers who were willing to participate in the study and agreed to the intervention strategies with the pet and the lessons (which were always implemented during students' guidance special with the guidance counselor present to assist). For the Pet Only and Pet + Lessons groups, it was vital that those teachers were willing to have class pets (fish) in their classrooms and for them to be responsible for caring for and maintaining them for the duration of the study. For these reasons, a convenience

sample was obtained in an effort to locate teachers who were willing to engage in and cooperate with the procedures of this study.

There are always concerns when using a convenience sampling approach, such as the fact that it is impossible to generalize about the entire population based on one small convenience sample, but other alternatives were not available. Because of this study's small sample size, exploratory data was obtained. The small sample size did not provide enough power to prove statistical significance; however, preliminary statistical analysis can be useful.

Sample Size

Based on the number of Parental Permission Forms that were returned and the number of children who consented to participate in this study, there was a total sample size of $N = 44$. There were 12 students in the Control Group, 10 students in the Pet Only group, 10 students in the Lessons Only group, and 12 students in the Pet + Lessons group.

Descriptive Statistics Looking at Sex and Age

Age and sex have been identified as variables that affect empathy; thus, they were included in the descriptive information about the sample. For sex in the entire sample, there were 22 males and 22 females – exactly 50% male and 50% female. For age in the entire sample, there were 32 eight-year-olds (72.7%), 11 nine-year-olds (25%), and 1 ten-year-old (2.3%). The Control Group was comprised of 5 males and 7 females, with 58% of the students age 8, 33.3% of students age 9, and 8.7% of students age 10. The Pet Only group was 40% male and 60% female, with 70% of students age 8 and 30% of students age 9. The Lessons Only group was 70% male and 30% female, with 60% of students age 8 and 40% of students age 9. The Pet + Lessons group was split evenly with 50% male and 50% female, with 100% of

students age 8. Because of the small sample size, age and sex were not independent variables between groups, but they were examined within groups. Table 2 outlines the percentages of sex and age among the groups.

Table 2.

Percentages of Sex and Age among Groups

Group	Males	Females	8-year-olds	9-year-olds	10-year-olds
Control Group	42% (n = 5)	58% (n = 7)	58% (n = 7)	33.3% (n = 4)	8.7% (n = 1)
Pet Only	40% (n = 4)	60% (n = 6)	70% (n = 7)	30% (n = 3)	----------
Lessons Only	70% (n = 7)	30% (n = 3)	60% (n = 6)	40% (n = 4)	----------
Pet + Lessons	50% (n = 6)	50% (n = 6)	100% (n = 12)	----------	----------
Entire Sample	**50%** (n = 22)	**50%** (n = 22)	**72.7%** (n = 32)	**25%** (n = 11)	**2.3%** (n = 1)

Classroom Pet

Dr. Gregory Hanley (2019), who serves as Director of the Division of Laboratory Animal Resources at East Tennessee State University and oversees the ETSU Animal Care Committee, was consulted prior to the study about classroom pet options. After consulting with him about which pet would be best, we also looked at a guide to animals in the classroom, produced by the American Association for Laboratory Animal Science Foundation (2011). It was determined that a guinea pig would be the best pet choice for this study. Considerations included the information that mice bite and scratch, rabbits scratch and may be too skittish to be around young children (and they require a mate to avoid depression), birds could potentially carry a variety of different diseases, and reptiles create risk for salmonella (AALAS Foundation, 2011).

Fish in a tank would be an optimal idea to avoid the potential risk of exposing participants to allergens from animal dander, but Dr. Hanley concluded that for the purpose of promoting empathy, we really did need something "cute" and "fuzzy."

The guinea pig, then, was the best possible choice. Guinea pigs seldom bite or scratch, and they "have a large repertoire of vocalizations reflecting mood and emotion" (AALAS Foundation, 2011, p. 15). Although they are small and still in the "rodent" family, they do possess the "fuzzy" or "cute and cuddly" factor Dr. Hanley suggested. Although it was easy to determine what type of classroom pet would be used for this study based on the literature and expertise from Dr. Hanley, there were many factors to consider before bringing a pet into the classroom. In Appendix C, the Classroom Animal Plan which was created using the guidelines from the AALAS Foundation (2011) is reported. This plan addressed how the classroom pet would be cared for and maintained during the study, including information on: nutrition, housing, bedding, cleaning, allergies, and more. Appendix D provides a Classroom Pet Care Log, which is a tool that the teacher and students used during this study to ensure all pet care requirements were met daily. In order to address the issue of allergies, the consent forms (see Appendices A, B, and C) specifically asked participants to indicate if they (or their children) have any known allergies to pet dander. These consent forms explained that if they do, then that participant's classroom (whether it is a teacher or a child) would be ineligible to house the pet guinea pig for this study. In addition to the stipulation of a 100% participation agreement response before the animal was brought into the classroom, there were additional concerns that children could develop allergies to the animal during the study. To address these concerns, there was a large section in both the Parental Permission Form and the Teacher Consent Form that explained this risk to participants, as per the university's protocol.

Within the four participating third-grade classrooms, there was one teacher with a known allergy to pet dander (automatically disqualifying her from being eligible to serve as the Pet Only or Pet + Lessons classroom). In addition, results from the parental consent forms indicated that there was at least one parent in each of the four classrooms that did not want their child exposed to the guinea pig because of a known allergy or potential risk of exposure to the pet dander. Thus, it was impossible to obtain a 100% participation agreement response. Upon the realization of the difficulty to obtain a 100% agreement among all parents, it was decided by the researcher to use fish as the classroom pets for the Pet Only and Pet + Lessons groups.   While not ideal in terms of being "cute and cuddly", a pet fish eliminated the other problems (e.g., allergies, scratching/biting, high levels of maintenance, etc.) presented by the other pet options. Additionally, with the popularity of children's movies such as *Finding Nemo*, it was thought that a fish might appeal to young children.

Setting

All study procedures took place in four different third-grade classrooms all in the same public elementary school in Northeast Tennessee. The research measures conducted in this setting included: having all participants in all 4 classrooms take the pre-test to get an initial empathy score using the Bryant (1982) Index of Empathy for Children and Adolescents; introducing a classroom pet to the Pet Only group; having the Lessons Only group participate in a series of 4 empathy-based mini lessons for intervention; introducing a classroom pet and having children participate in a series of 4 empathy-based mini lessons in the Pet + Lessons group; and having all participants in all 4 classrooms take the post-test (Bryant Index of Empathy for Children and Adolescents, 1982).

All research measures were conducted during regular school-operating hours. Exact times and dates were planned accordingly with the school principal and the participating classroom teachers. All pre-tests were conducting in the morning hours on the same day in each individual classroom. Intervention for the Lessons Only and Pet + Lessons groups consisted of a series of 4 empathy-based mini lessons implemented once a week for 4 consecutive weeks created by the researcher using key aspects from the Project Approach (Helm & Katz, 2016; Katz & Chard, 1992). All empathy-based mini lessons were conducted during the assigned guidance time of 1:10 pm until approximately 2 pm in the afternoons with the school guidance counselor present to assist with the lessons. Post-tests were repeated in the same manner as the pre-tests. The total duration of the study lasted 7 weeks: 1 week to administer the pre-test, four consecutive weeks to implement the empathy-based lessons or intervention, and one final week to repeat the post-test, plus an additional week after the study to conduct teacher interviews.

Measures

Bryant Index of Empathy for Children and Adolescents

Using the Bryant Index of Empathy for Children and Adolescents (1982) as a tool, data was collected both pre- and post-intervention in an effort to measure children's empathy levels before and after exposure to the treatment (the classroom pet interaction and 4-week treatment regimen of empathy-based lessons for project work). This tool was used in numerous studies to assess the empathy of young children and adolescents; Bryant (1982) tested this measure on 56 first-graders, 115 fourth-graders, and 87 seventh-graders. The tool was derived from using Mehrabian and Epstein's (1973) model on measuring empathy in adults as part of the theoretical framework. Because of the statistical procedures used (item means, item-total correlations, test-retest reliabilities, correlations of empathy with aggression, and correlations of empathy with

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other existing measures of empathy), construct validity was achieved. This tool also demonstrated reliability and preliminary construct validity (Bryant, 1982). The tool (Bryant, 1982) seeks to study developmental aspects of empathy.

This measure is a pencil-paper test designed for use with young children and adolescents. This measure was chosen because of its success in previous research and because it is a user-friendly, age-appropriate test to administer to third-grade students. There are 22 items on the test, to which participants answer either "T" for true or "F" for false. Participants are supposed to self-report and answer honestly. Each item presents an example scenario that the children might encounter at home or school. Appendix A shows the exact layout of the 22-item questionnaire, and participants read each question or scenario and responded "True" if the statement accurately reflected how they would feel or "False" if the statement did not accurately depict how they would feel. For school-age children, Bryant scored items dichotomously (1 or 0 for yes or no, true or false). The data was analyzed using statistical-processing software, where the statistical analyses were run to determine if there were any significant correlations.

Teacher and Guidance Counselor Interviews

In order to gain a deeper understanding of how this study affected the children, qualitative interviews were conducted with each of the four participating classroom teachers and the school guidance counselor (all of whom signed the Teacher Consent Form) in the seventh and final week of the study. The interviews were scheduled based on the teachers' availability, and all interviews were conducted in the teachers' classrooms for comfort and privacy. All interviews were recorded on a hand-held audio recording device, transcribed verbatim, and each teacher performed a member check on the final transcripts. To ensure inter-rater reliability, another researcher listened to the audio recordings (which were deleted after the study) and

double-checked the transcriptions for accuracy. The complete list of interview questions can be found in Appendix B. The verbatim transcriptions are included in Appendix G.

Weekly Empathy Lessons

A major component of this study was the empathy-based treatment regimen in the form of weekly empathy lessons. Once a week for four consecutive weeks, an empathy lesson was conducted on Mondays with the Lessons Only group and on Thursdays with the Pet + Lessons group. Because of time restrictions (each lesson was scheduled from 1:10 until approximately 2 pm) in public elementary school classrooms, it is challenging to truly delve deep into project work; however, aspects from the Project Approach were implemented in an effort to teach participants about empathy in a hands-on, developmentally appropriate manner.

The first week's lesson in the Lessons Only group focused on defining empathy. Hepburn's (Edens & Donen, 1957) definition was used, as it was explained to children that empathy was putting yourself in someone else's place. You put yourself in someone else's shoes. In their empathy journals, students on this day were asked to draw a pair of their most favorite shoes. We then went around the room and talked about how even though we are all third-graders at the same school in Johnson City, Tennessee, we all have differences, and it can be hard to imagine walking in someone else's shoes. The book *Coat of Many Colors* (Parton & Sutton, 1994) was read to the children in an effort to teach them about putting yourself in someone else's place—or shoes. In the main character young Dolly's case, this included being made fun of for having patches on her britches and holes in both her shoes (Parton, 1970; Parton & Sutton, 1994).

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For the following weeks with the Lessons Only group, literacy continued to be a tool used to teach children about empathy. Stories such as *Finding Nemo* and *Finding Dory* were used, and third grade literacy standards were met by having children think critically from different points of view of the characters—which was also a meaningful way to teach empathy. Open-ended questioning was used, and on many occasions webs or Thinking Maps were created in whole group settings to allow the children to brainstorm. The children, over the course of the study, became increasingly more comfortable with sharing their thoughts and own personal anecdotes. They learned that their thoughts and words had value, because at the end of each lesson, they were asked to draw or write in response to the day's prompt or provocation in their empathy journals. While we discussed and brainstormed in a whole group fashion, each child was talked to one-on-one as the researcher examined each child's contribution to his or her empathy journal. The child would describe to the researcher what he or she had drawn, and the researcher wrote children's words down in the empathy journal verbatim. Evidence from each empathy lesson, including the direct quotes and responses from the children's empathy journals, can be found in Appendix F.

For the Pet + Lessons group, the pet fish was the central topic or theme of the lessons, conducted in a more project-based manner. During the first lesson (as with any new project), students' prior knowledge was assessed. Children were asked what they knew about taking care of fish. In an effort to begin learning about empathy, children were asked how their classrooms might change if a fish were to be added. Children showed a high level of excitement about the prospect of getting a pet fish, and they demonstrated the ability to show empathy as they talked about how their new pet might feel in a home with lots of new children. They already were thinking about responsibility and ways to care for the pet during the very first lesson. A web was

created to brainstorm all of the children's ideas, and they wrote about their own thoughts and questions in their empathy journals. This first lesson was spent as an intentional day to include the children in the decision-making process of introducing a pet fish to their classroom.

The second lesson in the Pet + Lessons group was an exciting day. The new pet fish was introduced to children, and in their empathy journals, they took notes on how to care for their new pet. For example, children recorded how many pellets to feed the fish each day, how often to change out the water or clean the tank, and what temperature to keep their classroom, and so on. To assist children with the task of maintaining their new pet, a Classroom Pet Care Log (Appendix D) was created and left in the classroom. Stories such as *Finding Nemo* and *Finding Dory* were used in the third and fourth lessons with this group.   Table 3 outlines the weekly empathy lessons:

Table 3.

Outline of Weekly Empathy Lessons

Lessons Only Group	Pet + Lessons Group
Week 1 – Empathy is defined as putting yourself in someone else's shoes. In the empathy journals, students are asked to draw their favorite pair of shoes to make the connection that it can be hard for us to put ourselves in someone else's shoes. The book *Coat of Many Colors* is used to teach children about empathy – can they imagine being in Dolly's place with holes in both her shoes? Conversations begin about children's most treasured artifacts (just like Dolly's mother	Week 1 – Beginning the project with the pet fish and assessing children's prior knowledge: children are asked what they know about taking care of fish. The definition of empathy is introduced as children learn that empathy is about putting yourself in someone else's place. Children think critically and put themselves in the new pet's place, explaining the new pet will probably feel nervous or overwhelmed being in its new classroom home with lots of new children to meet.

made her the coat, the third graders have special treasures from loved ones, too).	Children begin to plan accordingly how they will care for and maintain the pet in their classroom. Notes are recorded in students' empathy journals.
Week 2 – *Finding Nemo* – literacy is integrated as students think from the perspectives of different characters. For example, how do they think Nemo feels when separated from his dad? Children reflect on similar times when they have been separated from their parents. Children also begin to empathize and think from the perspective of the father, imagining now how their own parents must experience stress and worry.	Week 2 – Introducing the new pet fish. Adoption day – children are introduced to their new pet fish, and all maintenance procedures are discussed with children as they take notes in their empathy journals on how to best care for their fish. The Classroom Pet Care log is shown to children, and they are taught how to record important details as they care for their new fish (e.g., how many pellets per day to feed the fish). Children discuss and vote on names for their new pet fish; the name is decided as "Pip" for short.
Week 3 – *Finding Dory* – the sequel is used to continue conversations on different characters' perspectives and points of view.	Week 3 – The story *Finding Nemo* is used. Literacy is integrated and used to teach empathy as children think from the different characters' perspectives and points of view.
Week 4 – What have we learned about empathy? A web is drawn on the board as children share responses in whole group fashion brainstorming all of the things they have learned about empathy.	Week 4 – *Finding Dory* is read to the children. Conversations circulate about reading emotions; children are asked to notice different characters' emotions in the story. Lesson ends with discussion on how the pet fish Pip has helped the children learn empathy.

Work Samples and Anecdotal Notes

In addition to the teacher interviews, qualitative data was collected in the form of student work samples and the researcher's anecdotal records from each empathy lesson. Throughout the study, students in the Lessons Only and Pet + Lessons groups kept an empathy journal to document each of the empathy-based lessons that spanned over four consecutive weeks. Part of project work is to discuss the topic with children, to assess students' prior knowledge, and to document using webbing or Thinking Maps (Helm & Katz, 2016). The students' empathy journals included their responses to open-ended questions designed to assess their prior knowledge or experiences, pictures they had drawn in response to empathy-based questions or lessons, and the webs where we brainstormed together. These journals show the progression over the course of the 4 weeks and provide evidence of what the children learned and retained about empathy. The journals were provided by the researcher as part of this study.

The anecdotal records (Appendix F) were created by the researcher to document the progression of each lesson; each anecdotal record includes the researcher's questions or provocations, along with direct quotes children said during the lessons and verbatim quotes from the students' empathy journals. These qualitative pieces from the study—the teacher interviews, the student work samples, and the researcher's anecdotal records—provide a deeper understanding of how the study unfolded and impacted participants.

Validity and Reliability

Creswell (2015) defines validity as the "development of sound evidence to demonstrate that the intended test interpretation (of the concept or construct that the test is assumed to

measure) matches the proposed purpose of the test" and "this evidence is based on test content, responses processes, internal structure, relations to other variables, and the consequences of testing" (p. 630). Reliability "means that individual scores from an instrument should be nearly the same or stable on repeated administrations of the instrument and that they should be free from sources of measurement error and consistent" (Creswell, 2015, p. 627). Validity in quantitative research depends primarily on careful instrument construction. The researcher must ensure that the instrument used in the study measures what it is supposed to measure (Patton, 2002). Moreover, the instrument must be administered to participants in an appropriate, standardized manner (Creswell, 2015; Patton, 2002). By using a well-known instrument for the quantitative data collection (Bryant's Index of Empathy for Children and Adolescents, 1982) that has been used, modified, or replicated in other studies measuring empathy with young children, validity was ensured. This instrument was administered in an appropriate, standardized manner, and work was done with another researcher to achieve interrater reliability when using the instrument (Creswell, 2015). Obtaining consistent results using this scale (Bryant, 1982) indicated reliability. For the qualitative data collection, fidelity of the study was achieved by using member checks along with interrater reliability for the teacher interviews.

Procedure

Prior to the study, the researcher met with school administrators to discuss the study and potential benefits. School board officials first signed off followed by the school principal who agreed to participate in this study using all four of her third-grade classrooms. After the principal initially agreed, there was a meeting with the principal and all four third-grade teachers. With a location and participants secured, official IRB approval was then obtained, after meeting

with the University Committee on Animal Care (2019) and adhering to all protocols outlined by

Dr. Hanley (2019).

Obtaining consent

After receiving IRB approval, consent forms were hand-delivered to the school. Each

classroom teacher received a packet containing their own Teacher Consent Form and the correct

number of Parental Permission Forms based on how many children were enrolled in each of their

classes. The Control Group had 16 children enrolled, and 12 children had returned Parental

Permission forms for a response rate of 75%. The Pet Only Group had 17 children enrolled, and

10 Parental Permission forms were returned for a response rate of 58.9%. The Lessons Only

Group had 16 children enrolled with 10 Parental Permission forms returned for a response rate of

62.5%. The Pet + Lessons Group had 17 children enrolled with 12 Parental Permission forms

returned for a response rate of 70.6%. Table 4 depicts the response rates of all four participating

classrooms:

Table 4.

Response Rates

Classroom or Group	Students Enrolled	Parental Permission Forms Returned	Response Rate Percentages
Control Group	16	12	75%
Pet Only	17	10	58.9%
Lessons Only	16	10	62.5%
Pet + Lessons	17	12	70.6%

Pre-test. Once the consent forms were returned, a time was scheduled to conduct the pre-

test based on the principal's and classroom teachers' convenience. The pre-test was

administered in all 4 third-grade classrooms on the same morning, in the same standardized

fashion. The Bryant Index of Empathy for Children and Adolescents (1982) was the quantitative measure used, and this was administered in the form of a 22-item pencil-paper questionnaire for the children. The same format was followed in each of the 4 classrooms: the researcher obtained consent from the children whose parents had already returned the consent forms, the tests were distributed, and the researcher read aloud each question and allowed ample time for students to think about each question and respond either "T" for true or "F" for false.

The reason the pre-test was administered in this fashion was to accommodate children who needed assistance in having a question read to them to ensure their understanding, or if students needed to hear a question repeated. It was explained to the students that this was to be their own thinking, and that there was no right or wrong answer. The researcher and each classroom teacher circulated around the room to ensure children were not "cheating." At the end of the pre-test, papers were collected and organized based on groups. During the pre-test, children whose parents had not returned a Parental Consent form were redirected and allowed to go visit other classrooms for independent reading—an activity delegated by the classroom teachers.

Assignment of Groups to Treatment Conditions

Once all of the pre-tests had been conducted on that day, the principal and classroom teachers scheduled the empathy-based mini lessons with the Lessons Only and Pet + Lessons groups to begin the following week. The two teachers who were most willing to work with and house the pet fish in their classrooms were assigned as the Pet Only and Pet + Lessons groups; the two teachers who were admittedly less comfortable with housing a pet in their classrooms were assigned as the Control Group and Lessons Only group. It is important to note that the principal also played a vital role in assigning groups. Specifically, the principal wanted the Pet +

Lessons group assigned based on the number of behavioral problems that were present in this classroom; the principal felt this group would especially benefit from receiving the extra lessons on empathy and the more individualized attention. While this was a nice benefit for the participating school, teachers, and students, it was not ideal from a research perspective, as it did not allow for random assignment of classrooms to treatment conditions. However it could not be helped and thus becomes a limitation of the study.

Involving the Guidance Counselor During Empathy Lessons

During the pre-test, the guidance counselor was introduced and observed how the pre-test was administered. It was explained that all of the empathy lessons would be conducted during the third graders' scheduled guidance special, which was on Mondays from 1:10 until 2 pm for the Lessons Only group and Thursdays from 1:10 until 2 pm for the Pet + Lessons group. The lessons were created with reference to teaching empathy but implemented in an open-ended fashion to encourage an extension similar to that of project work. In other words, each lesson was left open-ended to encourage deep conversation on each week's topic, and lessons were built off of the students' responses to each weekly lesson. The definition of empathy was taught in the first lesson, and each sequential lesson after that built off of what the children had discussed or questioned from the previous week. This is a characteristic of the Project Approach (Helm & Katz, 2016), in which children take responsibility for the direction in which the project goes; in other words, a teacher cannot simply plan out the entire project, because it is based on how the students respond, what questions they have, their level of engagement, and their own interests or inquiries. For each week's lesson, students recorded their learning into their empathy journals provided by the researcher, and those work samples served as an example of qualitative data for the study.

Implementing Aspects From the Project Approach. Aspects from the Project

Approach (Helm & Katz, 2016) could more prominently be seen in the Pet + Lessons group, in

which the classroom pet fish was slowly integrated. Unlike the Pet Only group, where the pet

fish was just placed into the classroom, there were deep conversations and intentional planning

associated with introducing the pet fish to the Pet + Lessons group. The first week's lesson was

all about assessing students' prior knowledge: what did these children know about fish or caring

for fish? The question was written on the board, and in whole-group fashion, ideas were

brainstormed and discussed while children recorded their own individual responses into their

empathy journals. Discussions focused on how the classroom would change or how the students

would be affected if they were to adopt a classroom pet—what would they need to do to set up

the environment? Who would be responsible for taking care of the fish? What materials would

be needed? This provided an opportunity to discuss empathy and how the children would need

to think from the pet's perspective.

In both groups that received the empathy lessons—the Lessons Only and Pet + Lessons

groups—anecdotal notes were taken during every lesson (Appendix F). An important part of the

Project Approach is documentation; in *Young Investigators*, Helm and Katz (2016) discuss the

importance of a teacher keeping their own records by using journaling, webbing, or Thinking

Maps. The purpose of this is not only to document the learning that takes place during the

project but also to help the teacher plan for next steps. For the anecdotal records created for each

lesson (4 lessons for each of the two groups, for 8 lessons), the researcher's questions or

provocations were documented, along with direct quotes and questions from the children. These

anecdotal records served as a piece of qualitative data, along with the qualitative teacher

interviews, that was examined as evidence of how empathy was enhanced.

Although this was not a true project with all 3 phases represented, there were influences from the Project Approach (Helm & Katz, 2016) reflected in each of the weekly lessons. Strategies such as assessing children's prior or background knowledge were used, as well as engaging children in open-ended, in-depth conversations surrounding the topic or theme of empathy for the Lessons Only group and empathy and caring for pets in the Pet + Lessons group. The children made webs or Thinking Maps (Helm & Katz, 2016) in their empathy journals to record their thinking, and they were involved in every aspect of the project. Their responses, questions, and engagement influenced next steps for all weekly lessons.

Introducing the Pet Fish. After these discussions, the fish was brought into the Pet + Lessons classroom, and all maintenance requirements were taught to the children, who recorded this information into their empathy journals. For example, the room and water temperature requirements to keep a fish healthy, the number of pellets that were to be fed to the fish daily, and appropriate cleaning and handling procedures were all discussed with the children. Students approached this concept with great responsibility and maturity, realizing that a mistake in feeding, handling, or cleaning could result in death or injury of the fish. The students also named the pet fish together through a democratic process of brainstorming ideas then voting; in an effort to please the majority of the students, some names were combined, and the pet fish in the Pet + Lessons group became known as Pippy-Pip Squeak the Dark Red Betta, or just "Pip" for short.

This is an example of involving children in the whole process, allowing them to take ownership and responsibility over their project (Helm & Katz, 2016). Instead of just haphazardly dropping off the fish, we discussed what children knew about fish, identified all of the materials associated with caring for the fish, and very carefully and intentionally set up the fish's home and habitat in the classroom environment. Students even thought about where the

best place would be to place the fish bowl so that friends could visit with him and so that he would have the best view of the classroom—indicating what they had learned about thinking from another perspective. Weekly lessons continued until both the Lessons Only and Pet + Lessons group had received 4 quality lessons on empathy.

The pet fish were obtained from Pet Smart, which ensured these were high quality fish. A betta fish was used in the Pet + Lessons group, and two goldfish were used in the Pet Only group. The decision to use goldfish was up to the Pet Only classroom teacher, who specifically chose the goldfish. The betta fish was chosen for durability by the researcher after speaking with the Pet Smart employees. Materials associated with the care and maintenance of the fish were provided, including appropriate habitats (fish bowls or small aquariums), fish food or pellets, habitat accessories (it was explained that fish needed a hiding or sleeping space to feel safe, which added value to our discussions on empathy), and supplies of spring water (spring water could be used to avoid having to purchase chemicals and maintain the pH balance in the fish bowl or aquarium). Together, a Classroom Pet Care Log was created so that students could record how they were caring for their pet fish.

Rationale for Planning Methods. The goal was to design an intervention that provided enough time to make a difference, but also one that kept students engaged for the duration of the study. Originally, 6 empathy-based lessons were going to be implemented, but because of scheduling and the school's Christmas break, it was decided to design a 7-week study with 4 empathy lessons. Weeks 1 and 6 were spent administering the pre-tests and post-tests; empathy lessons were conducted with the Lessons Only and Pet + Lessons groups during weeks 2, 3, 4, and 5. The final week of the study was reserved for conducting the interviews with the four

classroom teachers and guidance counselor. Table 5 outlines the schedule for the study and the

methods that were used:

Table 5.

Weekly Methods used for Study

Week	Methods
Week 1	Pre-tests administered to all third-grade classrooms.
Week 2	Empathy lesson 1 implemented in Lessons Only and Pet + Lessons groups.
Week 3	Empathy lesson 2 implemented in Lessons Only and Pet + Lessons groups.
Week 4	Empathy lesson 3 implemented in Lessons Only and Pet + Lessons groups.
Week 5	Empathy lesson 4 implemented in Lessons Only and Pet + Lessons groups.
Week 6	Post-tests administered to all third-grade classrooms.
Week 7	Interviews conducted with all 4 third-grade teachers and the guidance counselor.

Finalizing the Study: Post-test and Interviews

During the 6th week of the study, the post-test was re-administered to all children in the

same manner as the pre-test to ensure fidelity to the study. During the seventh and final week of

the study, interviews were conducted with the four classroom teachers and the guidance

counselor in an effort to reflect on what the children learned and how this study affected them

over the last six weeks. All interviews were scheduled based on the convenience of the

classroom teachers, and each interview was conducted in the privacy of their own classrooms.

An audio recorder was used to record each interview; then, the interviews were transcribed

verbatim. The audio recordings of the interviews were destroyed after transcription. Another

researcher double-checked the transcriptions to establish interrater reliability, and the teachers all

completed member checks (Creswell, 2015) to ensure accuracy and fidelity of the study.

Summary

Chapter 3 outlined the methodology for this research study. Participants included 44 students from four different public elementary school classrooms in the same school in Northeast Tennessee, obtained from a convenience sampling. Groups were identified as the Control Group, the Pet Only group, the Lessons Only group, and the Pet + Lessons group. The quantitative instrument for data collection used with all 4 groups was the Bryant Index of Empathy for Children and Adolescents (1982). Qualitative methods included conducting interviews with all four classroom teachers and the school guidance counselor at the end of the study and an analysis of students' work samples and anecdotal records from the researcher. As part of the methods, classroom pet fish were integrated into the Pet Only and Pet + Lessons groups. An intervention consisting of four project-based lessons on empathy were implemented with students in the Lessons Only and Pet + Lessons groups. Chapter 4 will outline the data analysis and discuss the results and findings in an effort to address the research questions.

Chapter 4: Results and Data Analysis

The purpose of the study is to determine if classroom pets as part of an empathy-based treatment regimen will affect public elementary school students' empathy levels. This chapter will discuss the data and how it was analyzed to answer the overarching and supporting research questions.

Research Design

A quasi-experimental design (Creswell, 2015) with both quantitative and qualitative data collection methods (Creswell, 2015; Patton, 2002) was used with participants from four different third grade classrooms in the same school in Northeast Tennessee. Whether exposure to a classroom pet combined with project-based intervention could have any impact on third grade students' levels of empathy was assessed. In a true experimental design, all of the participants (elementary school-aged children) would have an equal chance of being assigned to one of the four treatment groups. However, because it was not possible to produce true random assignment, as detailed in Chapter 3, this research study is labeled as a quasi-experimental design.

This was also as a mixed methods study, because data collection procedures included both quantitative and qualitative measures by the researcher. The quantitative measure included the use of the Bryant Index of Empathy for Young Children and Adolescents (1982) for the pre-test and post-test, and the qualitative measures included the teacher interviews, collected work samples from students' empathy journals, and the researcher's anecdotal records documenting each empathy lesson. Using a variety of different data collection procedures also helped establish triangulation of the data (Creswell, 2015).

The intervention of this study included implementing a treatment regimen (the introduction of pet fish into the Pet Only and Pet + Lessons classrooms, plus a series of 4 empathy-based mini lessons in the Lessons Only and Pet + Lessons classrooms) in public elementary school classrooms to determine if the addition of a classroom pet, the addition of project-based empathy lessons, or a combination of both had any effect on children's empathy. The intervention consisted of introducing classroom pets (fish) to the Pet Only and Pet + Lessons classrooms, combined with implementing 4 empathy-based lesson plans that were created to be open-ended enough to promote and encourage project work in the Lessons Only and Pet + Lessons classrooms. Thus, the participants had over 4 weeks to care for and bond with the pet fish before retaking the post-test, and the empathy-based lessons were implemented once a week for 4 consecutive weeks in a consistent classroom setting with the guidance counselor.

According to Creswell (2015), experiments are "used by researchers to test activities, practices, or procedures to determine whether they influence an outcome or dependent variable" (p. 621). In this study, there were two independent variables: the integration of a classroom pet fish (IV 1) and the implementation of a project-based approach in the form of 4 empathy-based lessons (IV 2) into the classroom curriculum. This study examined if the independent variables had either main effects and/or interaction effects on the dependent variable, which was changes in children's empathy (DV). Theoretically, children who were in the treatment (or experimental) groups should experience increased levels of empathy. It was predicted the most significant change would be with the group of participants exposed to the most treatment (Pet + Lessons group), which received the pet interaction plus the 4 weeks of empathy-based lessons using inspiration from the Project Approach.

Preliminary Statistical Analysis

Comparisons between and within groups were studied. The quantitative data collected provided pre-test and post-test scores of participants' empathy levels before and after exposure to the treatment regimen; thus, differences in empathy between and within groups were examined. Every child had a mean empathy score, and those initial pre-test scores were compared with the empathy post-test scores obtained at the end of the study (Appendix E), after they had been exposed to the treatment (classroom pet fish, lessons, or both). The quantitative data was used to look at differences between groups to see if there was any significant difference. In order to accomplish this, comparisons between and within groups were examined using both SPSS software and Microsoft Excel. Because of the small sample size ($N = 44$), this study does not provide enough power to prove statistical significance; however, preliminary statistical analysis shows evidence that the classroom pet in combination with the empathy lessons did have a positive impact on participants' empathy levels. This study provides exploratory data because of its small groups.

Descriptive Statistical Analysis

When analyzing the descriptive statistics of the participants, the mean ages of the children from all four classrooms were examined. Because most public elementary school classrooms are very age-segregated, it was expected that there would not be noticeable differences in the ages of the children in the classrooms (i.e., even in 4 different third grade classrooms, one would assume children would be roughly the same age). Sex was a categorical variable to examine. A preliminary analysis to see if there were differences between males and females in their overall levels of empathy was done. All data for boys and girls in each

classroom were aggregated. Because of the small sample size, age and sex were not independent

variables between groups, but they were examined within groups. For age, the Control Group

saw a 1.95% increase in empathy for 8-year-olds, a 9.09% decrease for 9-year-olds, and a 4.55%

decrease for the 10-year-old. In the Pet Only group, 8-year-olds had an 11.69% increase in

empathy, and 9-year-olds had a 3.03% increase. The Lessons Only group saw a 3.79% increase

in empathy for 8-year-olds and a 5.68% increase for 9-year-olds. The Pet + Lessons group had a

3.79% increase for 8-year-olds. For sex, males in the Control Group had a 10% decrease in heir

post-test scores, while females increased by 3.25%. In the Pet Only group, males increased their

average empathy score by 10.23%, while females increased by 8.33%. Both males and females

in the Lessons Only group increased their empathy scores by 4.55%. Males in the Pet + Lessons

group increased their empathy scores by 6.06%, while females increased by 1.52%. A full report

on the descriptive statistics can be found in Appendix E.

Research Questions

The research questions posited to help guide the research project were answered by the

quantitative data and the themes that emerged in the coding process. The primary research

question was as follows:

Overarching Research Question: Will the introduction of a classroom pet, combined

with project-based support, affect children's empathy? The research hypothesis predicted that

empathy-based treatment, regardless of whether it was the pet, the lessons, or a combination of

both, would increase empathy levels significantly among the participants.

Supporting research questions that helped to extract information specifically related to the primary research were:

Supporting Question 1: Is doing anything better than nothing? The hypothesis was that doing something, no matter what type of treatment a group received, would significantly increase participants' empathy levels. It was predicted that a noticeable increase would be seen in the empathy levels from the three groups that received treatment (the Pet Only, Lessons Only, and Pet + Lessons groups), but not the Control Group that received no treatment.

Supporting Question 2: Does the type of treatment matter? The four participating classrooms each received four different types of treatment: no treatment at all in the Control Group, exposure only to the pet fish in the Pet Only group, participation in lessons only in the Lessons Only group, and a combination of engagement with the pet and participation in lessons in the Pet + Lessons group. It was predicted that the group with the most intervention or highest level of treatment (the Pet + Lessons group) would experience the greatest increase in empathy levels.

Research questions were answered using statistical analysis. Main effects of the independent variables (presence of pet; presence of lessons; age; and sex) on the dependent variable (empathy) were analyzed.

Using the Results to Answer the Research Questions

After conducting the pre-test, exposing children in the Pet Only and Pet + Lessons groups to pet fish in their classrooms, and implementing interactive lessons on empathy with children in the Lessons Only and Pet + Lessons groups, it was evident that the study did have a positive

impact on children's empathy. In all three groups that received intervention in the form of the pet, the lessons, or both, there was an overall increase in the class averages for empathy between the pre-test and the post-test. Additionally, evidence from the anecdotal records (Appendix F) from the lessons and teacher interviews (Appendix G) indicated that there were observable differences in children's understanding and demonstration of empathy, and the treatment did have a positive impact on children's empathy levels. In this section, results are presented and used to answer the overarching and supporting research questions. Quantitative percentage changes in empathy scores within groups help answer the first supporting research question on whether doing something is better than nothing. A repeated measures analysis of variance, or ANOVA, is used to answer the second supporting research question on whether or not the type of treatment received matters, where treatment groups were compared with each other

Quantitative Percentage Changes In Empathy Scores Within Groups

In order to address the first supporting research question on whether doing something is better than nothing, quantitative changes in empathy scores were examined using Microsoft Excel and SPSS software. The classroom average percentage changes in empathy scores, as well as differences between age and sex, were examined. The only group to experience a decrease in empathy was the Control Group, which had no pet and no intervention. The class average for the Control Group decreased by 2.27% during the study. The Pet Only group had the biggest increase in empathy; this statistic along with evidence obtained from the ANOVA caused the research hypothesis—that the group receiving the pet *and* the lessons would experience the greatest increase due to the most treatment—to be rejected. However, this would indicate strong evidence of what a positive impact a pet can have on young children. The Pet Only group

experienced a 9.09% increase in empathy during the study. The Lessons Only group saw a

4.55% increase in empathy, and the Pet + Lessons group had a 6.06% increase in empathy. It

could be that the Pet+Lessons group did not show as much of a gain because of the composition

of the classroom (i.e., the principal choosing a group of students with the most behavior

problems to receive the most treatment).

The quantitative data provided support for answering the research questions: statistically

speaking, the treatment did have a positive impact on empathy because all three groups that

received treatment experienced an increase in empathy levels between the pre-and post-tests.

The only group that experienced a decrease in empathy between the pre- and post-test was the

Control Group, which received no pet and no intervention, leading one to believe that the

independent variables (the pet and lessons) positively impacted or affected the dependent

variable (change in students' empathy levels). Below are tables depicting the quantitative

change in empathy for each group.

Table 6.

Changes in Empathy for Control Group

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Age	12	2.00	8.00	10.00	8.5000	.67420	.455
PreTest	12	31.81	54.55	86.36	70.8325	10.15467	103.117
PostTest	12	68.18	27.27	95.45	68.5592	19.42632	377.382

Table 7.

Change in Empathy for Pet Only Group

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Age	10	1.00	8.00	9.00	8.3000	.48305	.233
PreTest	10	45.46	27.27	72.73	54.0910	17.33744	300.587
PostTest	10	40.91	40.91	81.82	63.1820	14.60440	213.289

Table 8.

Change in Empathy for Lessons Only Group

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Age	10	1.00	8.00	9.00	8.3000	.48305	.233
PreTest	10	45.46	27.27	72.73	54.0910	17.33744	300.587
PostTest	10	40.91	40.91	81.82	63.1820	14.60440	213.289

Table 9.

Change in Empathy for Pet + Lessons Group

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Age	12	.00	8.00	8.00	8.0000	.00000	.000
PreTest	12	59.09	36.36	95.45	67.4242	19.65349	386.260
PostTest	12	36.36	54.55	90.91	71.2125	13.47336	181.531

Examining Sex as a Variable. In the total sample of $N = 44$, there were exactly 22 males (50%) and 22 females (50%). In the Control Group, there were 5 males (41.7%) and 7 females (58.3%). Males had a pre-test average empathy score of 65.45% while females were higher with an average score of 74.68%. Males in the Control Group had a 10% decrease in their post-test

scores, while females increased by 3.25%. Females in this group scored higher on the pre-test and increased their overall empathy levels for the post-test while males' empathy decreased.

The Pet Only group was comprised of four males (40%) and six females (60%). This group saw the greatest increase in empathy, and males and females had a very similar pre-test score of 53.41% for males and 54.55% for females. Males increased their average empathy score by 10.23%, while females increased by 8.33% for a class average of 9.09% increase in empathy. Again, females were just slightly more empathetic in this group; however, the males made a slightly bigger increase in empathy throughout the study.

The Lessons Only group had seven males (70%) and three females (30%). Both males and females increased their empathy scores by 4.55%. Males in this group had a pre-test average of 61.69% and a post-test average of 66.23%. Females had a pre-test average of 80.3% and a post-test average of 84.85%. While there were only three females in this group, the girls tended to be highly empathetic. The class overall had a 4.55% increase in empathy scores.

The Pet + Lessons group was equal with six males (50%) and six females (50%). Males in this group increased their empathy scores by 6.06%, while females increased by 1.52%. This was the only classroom in which the males had a higher empathy score than females on both the pre- and post-tests: males had a pre-test average of 68.18% and a post-test average of 74.24% (6.06% increase), and the females had a 66.67% pre-test average and a 68.18% post-test average (1.52% increase). The class on average experienced a 3.79% increase in empathy.

Examining Age as a Variable. In the entire sample of $N = 44$, there were 32 eight-year-olds (72.7%), 11 nine-year-olds (25%), and 1 ten-year-old (2.3%). For age, the Control Group

saw a 1.95% increase in empathy for 8-year-olds, a 9.09% decrease for 9-year-olds, and a 4.55% decrease for the 10-year-old. These percentages would lead one to believe that age 8 is an important time to teach young children about empathy, because among the children who received no empathy instruction or intervention, their empathy decreased with age. In the Pet Only group, 8-year-olds had an 11.69% increase in empathy, and 9-year-olds had a 3.03% increase, reiterating that the younger 8-year-olds were able to increase their empathy more than their older 9-year-old classmates. The Lessons Only group saw a 3.79% increase in empathy for 8-year-olds and a 5.68% increase for 9-year-olds. There were no 10-year-olds in the Lessons Only group. The Pet + Lessons group had a 3.79% increase for 8-year-olds. There were no 9- or 10-year-olds in this classroom. Because of the small sample size ($N = 44$), sex and age were not independent variables between groups, but they were examined using descriptive statistics within groups.

Variance Between Groups

In order to answer the second supporting research question on whether the type of treatment matters, a repeated measures analysis of variance, or ANOVA, was run using SPSS software. Differences between the three treatment groups were examined. The Pet Only, Lessons Only, and Pet + Lessons groups were compared with each other. The Pet Only group, which experienced the greatest increase in empathy between pre-and post-tests, had the highest *(f)* value, indicating the variation was more than what was expected to see by chance (Creswell, 2015). The table below shows the results from the ANOVA.

Table 10

ANOVA Examining Difference between Groups

ANOVA

		Sum of Squares	Df	Mean Square	F	Sig.
PetOnly	Between Groups	744.017	6	124.003	8.985	.050
	Within Groups	41.405	3	13.802		
	Total	785.422	9			
LessonsOnly	Between Groups	761.057	6	126.843	1.073	.519
	Within Groups	354.787	3	118.262		
	Total	1115.843	9			
PetPlusLessons	Between Groups	1074.726	7	153.532	2.175	.236
	Within Groups	282.388	4	70.597		
	Total	1357.114	11			

Qualitative Analysis

Qualitative Data From Each Empathy Lesson

Part of the methodology for this study was to implement an intervention with participants from two of the four groups: The Lessons Only and Pet + Lessons groups received intervention in the form of a series of empathy-based lessons. Each lesson was conducted once a week for four weeks during students' regularly scheduled guidance special. The Lessons Only group received their lessons Mondays from 1:10 until approximately 2 pm, and the Pet + Lessons group received their lessons Thursdays during the same time frame. The guidance counselor was present in the classroom to assist with classroom management. All anecdotal notes from the field can also be found in Appendix F; featured below are tables summarizing the most significant insights from each of the eight empathy lessons. It is important to note that lessons flowed in a way that allowed children to discuss with the whole group in addition to responding

to specific prompts in their own empathy journals. The tables highlight direct quotes children

said during whole group discussions, as well as verbatim quotes found in their empathy journals.

Table 11.

Lessons Only Group, Empathy Lesson 1

Researcher's Questions/Provocations	Children's Direct Quotes/Responses	Researcher's Inferences
What does empathy mean?	It has to do with feelings. To control your feelings.	*It seems like they know empathy is connected to feelings, but they do not have a clear concept of the definition.*

Note – Lesson conducted on November 4, 2019, from 1:10 – 1:45 pm in Guidance Counselor's room. Lessons Only Group – Empathy Lesson #1.

Based off of this first empathy lesson, it appears that children did have some idea that

empathy was connected to feelings. The lessons will work to provide children with a clear

concept of the definition and provide them with opportunities to demonstrate their understanding

of empathy.

Table 12.

Lessons Only Group, Empathy Lesson 2

Researcher's Questions/Provocations	Children's Direct Quotes/Responses	Researcher's Inferences
Do we remember what vocabulary word we learned last week? What does empathy mean?	Empathy!	*This shows evidence that the students retained and remembered not only the term empathy, but also the definition after 1 week.*

	Putting yourself in someone's shoes.	
What does empathy mean to you?	Thinking about their home life…that might compare to their attitude.

I saw a commercial of a little girl who was hungry…she had no food. | *I thought this provided evidence of deep and reflective thinking.*

Was this example because we talked about being rich or poor last week and Dolly's family having no money? |
| Do you think pets can help us learn empathy? | Yes…if you're, like, sad, a dog can make you feel better.

Yes…they cheer you up!

A pet can't, like, live by itself…you have to take care of it and you should do the same for your friends. A pet can train you to take care of your friends.

Yes…pets are like people…they help you understand others' emotions.

Yes, I have a dog at home…whenever my mom's in a bad mood, he makes her feel better. | *What a reflective response and excellent example of how pets teach us empathy…*

These children are extremely sophisticated in their thinking and showing strong evidence of their ability to think about empathy and the emotions of others. |
| *Children were asked to draw a picture in their **empathy journals**:*

Can you draw what empathy means to you? | *Here are the students' very own words from their **empathy journals** describing their pictures:*

I want to see my dog, and that always cheers | *Children remembered and retained information from last week as they recalled, defined, and provided rich examples of "empathy."*

Interesting that without even being prompted, the children automatically and naturally associate empathy to the feeling or connection they have |

	me up…that and my brother. Empathy…it makes me think of when my family has fun. When I play basketball with my friend and he misses a shot, I say, "Nice try!" I forgot about my dog Oreo, who's up in Heaven…about my family – my dad was in the army, so it [empathy] makes me think about that. He's my pet – Moe! Whenever I look at people's shoes, it makes me think of their personalities. It makes me think of their home life and how their parents treat them. I'm going to draw them [her pet dogs] saving a human! My dogs are saver dogs. My dog kept on saving me. It [empathy] just makes me think about people who don't have a dog, because their dog might have run away or died. We trust our neighbors if our dogs run away, but some people can't trust their neighbors.	*with their pets. This group is not even receiving a class pet, but they are still making those connections…* *This little girl, M, connected her drawing this week back to last week's illustration of her favorite shoes…I love that she's thinking of the definition of empathy and connecting that to her drawings of shoes.* *Somehow, even though this is the LESSONS ONLY GROUP, the children's experiences with pets still played a critical role in how they thought about empathy.*

Note – Lesson conducted on November 11, 2019, from 1:10 – 1:45 pm, in Guidance Counselor's room. Lessons Only Group – Empathy Lesson #2.

For the second lesson, children remembered the term empathy and were able to recall and recite the definition. They applied their own understanding of empathy by giving specific examples of what empathy meant to them. During the whole group discussion, one child brought up his pet; thus, the conversation naturally gravitated towards focusing on the children's pets. This shows evidence that children tend to have a natural fondness and affection towards animals or pets, and even in the group that is not receiving a classroom pet, the children can still use animals or pets to learn about empathy. In their empathy journals for this lesson, children were asked to draw a picture of what empathy meant to them. Some children are able to provide a specific example of empathy (e.g., the children who draw and discuss about cheering on a friend while playing basketball, thinking about different people's home lives, or thinking about people who don't have a dog); however, other children are still struggling to truly understand the abstract term. These children draw or discuss things related to their own emotions, such as what makes them feel happiness. As the lessons progress, will the children be able to understand that empathy is not just focusing on feelings or emotions, but it has to do with understanding the perspectives of other people?

Table 13.

Lessons Only Group, Empathy Lesson 3

Researcher's Questions/Provocations	Children's Direct Quotes/Responses	Researcher's Inferences
Do you remember what special word we've been working with?	Empathy.	*These responses provide evidence that the students are learning and retaining*

Can you think in your minds of a way to describe or define empathy?	Think of how somebody else lives. Put yourself in someone else's shoes. It's their point of view!	*information learned from each lesson on empathy.*
How do you think Nemo felt?	Scared. Worried.	
Children were asked to think about empathy and draw a scene in their **empathy journals** *from the story illustrating a character's point of view.*	*Here are the children's own words from their* **empathy journals** *describing a character's point of view:* Empathy…how somebody feels. I think he feels startled or scared because he's away from his father, and he doesn't know if there's any mean people. He was scared and worried – because he was away from his father, and that was his only family member. Nemo – he was scared. I think Nemo was very sad and then happy to see his dad! You feel something, but it's not about you, it's about other people, but you can still feel sad. How he got taken – how sad he feels when he got taken in the tank. Marlin and Dory were freaking out – because they were trying to find Nemo. Empathy means being nice and not hurt them…Nemo, sad. Empathy: the definition is feelings…Nemo, he's happy because he's gonna have brothers and sisters.	*Sophisticated concept of empathy here. Clearly, these quotes provide strong evidence of the third graders' abilities to think about empathy from another person's point of view or perspective; they are able to put themselves into the characters' places and think about their emotions and what they must be feeling.*

	Empathy means to put yourself in someone's place…this makes me think of how he feels, Nemo and his dad.	

Note – Lesson conducted on November 25, 2019, from 1:10 – 1:45 pm in Guidance Counselor's room. Lessons Only Group – Empathy Lesson #3.

During this lesson, students really began to understand the concept that to empathize is to understand the emotions and experiences of others. The children demonstrate their understanding of empathy by writing in their journals about the different characters' perspectives and points of view.

Table 14.

Lessons Only Group, Empathy Lesson 4

Researcher's Questions/Provocations	Children's Direct Quotes/Responses	Researcher's Inferences
Could you have empathy and imagine how Dory must be feeling in our story?	It's empathy because he [Marlin] had experienced the same thing [as Dory].	*Students are able to empathize with the characters from the story; children share examples of times when they were lost or separated from their parents.*
How do you think your parents felt when you were separated from them? Can you have some empathy and try to think of one word to describe how your parents felt?	Worried Frightened Traumatized I would say a little bit worried. Angry I would say everyone's words.	*This shows evidence of the children's abilities to empathize and think from the perspectives of their parents.*

| Can you illustrate an example of empathy from the story in your **empathy journals**? | *Here are children's direct quotes describing what they drew/wrote about in their empathy journals:*

The story was good, but she was sad because she lost her parents.

The both of them are trying to find her parents, and the both of them are sad.

I remember when they went to the giant tank, they found octopus, and he told her that her parents were somewhere else…that made her feel surprised…and annoyed.

I remember that she was super scared, and it was even worse because she had short-term memory loss!

I think that they were both sad, and Dory was getting sad and stressed, and she had short-term memory loss, and she lost her family when she was a baby…and Marlin was upset because he lost his only family, his son. They both got lost…he felt very sad. "Where is my son? OMG where is my mom and dad?!"

Dory got taken…it made her feel sad. And mad.

How he feels when they say no to help them, because in the movie, they didn't always say yes to help them, so Dory says, "Hi, can you help me?"

Dory felt bad because she lost her parents.

Marlin felt bad for Dory because she was separated from her parents and didn't even remember. | *These words from the students' empathy journals provide evidence of their ability to think about the different points of view and emotions felt by the characters.* |

Note – Lesson conducted on December 2, 2019, from 1:10 – 1:45 pm in Guidance Counselor's room. Lessons Only Group – Empathy Lesson #4.

With this lesson, we read the story together, and children shared in whole group discussions about specific times when they experienced being separated from their own parents, much like Nemo and Dory experienced in the stories. This conversation prompted children to not only empathize with how the characters must be feeling, but to also understand the concern and worry that their own parents feel. Using literacy as a tool has opened the door to talking about many different perspectives or points of view. As the children read and talk about the story, they not only think critically about the characters, but they also apply examples from their own personal histories as they demonstrate their ability to empathize.

Table 15.

Pet + Lessons Group, Empathy Lesson 1

Researcher's Questions/Provocations	Children's Direct Quotes/Responses	Researcher's Inferences
Beginning the project: Assessing students' prior background knowledge. What do we know about taking care of fish? What can we do to make the fish feel at home?	We can play with the fish and look at it. We could put the fish in the center of our classroom so people will be happy and watch it while they think. The fish will need protection, so it feels at home. Tank, pebbles, plants, decorations, maybe a house… If it's scared, he can go inside his house…he might be scared because he doesn't know us.	*This tells me the student associates pets with happiness; he's thinking about where in the classroom environment is best for the fish.* *Already, the children are thinking from the fish's perspective, showing evidence of empathy.*

How will your classroom change once we get the pet fish?	Responsibility – we'll have to take care of it! It'll change because everyone will have a job, and people can't be careless. We can't let people who are careless take care of our fish! It won't change for me because I'm used to having fish – my aunt has two fish.	*This tells me that the children are excited about and invested in caring for the pet fish. They are already thinking about prosocial behaviors like responsibility, and they feel strongly about people not being careless.*
What does aggression mean? Are you ever aggressive with your friends?	We don't want an aggressive fish…we want a kind fish! Some fish are aggressive, like people, and they eat the fish, and then they die. It means you're mad…your anger takes over. Yes… Three third graders were bullying my friend, and lots of people gathered to stand up for him.	*Perfect connection to the antisocial behaviors discussed in Chapter 2; the students came up with this connection without any prompting, which tells me they are thinking about the traits they would find ideal in a classroom pet and connecting that behavior back to people.*
*Children were asked to draw in their **empathy journals** a picture of how we would set up the pet fish in their classroom.* How do you think the fish will feel when he comes to live in your classroom?	*Here are verbatim responses from children's **empathy journals** describing what they drew:* He will feel excited and happy to be away from the dangers of the ocean. Feeling excited and a little scared because all of the new people and you will need to give him extra space… Clean the tank…very careful with the fish, very delicate. Scoop the fish out quickly so they don't die… I would feed it and have it a nice little house.	*Students are super excited to welcome a pet fish into their classroom! What we thought would be a limitation really had no effect on the level of excitement and engagement of the children. This should be useful information for teachers: even if you have allergies, a tight budget, or lots of chaos in the classroom, you can still have something as simple as a pet fish to prompt and provoke these thoughts and empathetic emotions from the children.*

Note – Lesson conducted on November 7, 2019, from 1:10 – 1:45 pm in Guidance Counselor's room. Pet + Lessons Group – Empathy Lesson #1.

This lesson was used to begin the project with the pet fish as the central topic or theme. In project work, it is important to involve children in the decision-making process to help them feel ownership and to become invested. It is also important for teachers to assess what students already know about the topic; thus, the lesson began with asking children what they knew about taking care of pet fish. This was also an optimal time to gage the level of excitement or engagement; it was a concern that without the "cute" and "cuddly" component, children would lose interest. However, on the contrary, students in this group showed a high level of excitement and interest for adopting a pet fish in their classroom. It was interesting that before the fish was even introduced, the children were already thinking about responsibility in terms of how they would set up the fish and care for him. Some students were already concerned, making the comment that people couldn't be careless, which makes me wonder about the children's perceptions of each other. Ironically, one child made the point that she did not want an aggressive fish, but a kind fish. I wonder where this stemmed from and what her experiences were for her to mention this, but nevertheless it provided an opportune teachable moment to discuss aggression as an antisocial behavior. Now that the children have a clear understanding about bringing the fish into the classroom and how they will be responsible for the new pet, the next lesson will introduce the actual pet fish into the classroom.

Table 16.

Pet + Lessons Group, Empathy Lesson 2

Researcher's Questions/Provocations	Children's Direct Quotes/Responses	Researcher's Inferences

Continuing the project: Introducing the pet fish and teaching children how to care for the fish in their classroom *Students made notes in their ==empathy journals== and were given a Classroom Pet Care Log to help them keep track of the care and maintenance of their pet fish.* *Students signed a consent form, or contract, to become official pet fish parents.* *Students voted on names; they decided to name their pet male Betta fish Pippy-Pip Squeak the Dark Red Betta Fish, or "Pip" for short.*	How can we interact with the fish?! Like, how do we talk to it?! Can we get close to it and tap on the tank?! *The rest of this lesson was spent having children learn about the maintenance procedures (cleaning, feeding, and handling) of the pet fish. Students were able to spend ample time bonding and interacting with the pet fish and setting up his "home" in their classroom.*	*These questions from K, who is extremely excited about the pet fish, provide evidence that the students are already thinking of ways to interact with and bond with their new class pet. This is so positive, because we were all worried that a fish might not provide the same level of excitement and engagement from the students, but they were so happy and eager to care for the fish.*

Note – Lesson conducted on November 14, 2019, from 1:10 – 1:45 pm in Guidance Counselor's room. Pet + Lessons Group – Empathy Lesson #2.

This lesson was spent introducing the pet fish, Pip, to the children. All maintenance procedures (e.g., feeding, cleaning, handling) were discussed in great detail with the children. While these procedures were being discussed, children took notes in their empathy journals to help them remember certain details, like how many pellets per day to feed the fish. Responsible learning (Evanshen & Faulk, 2011) is important for young children when new materials are introduced into the classroom; thus, time was well spent on this day as children learned about and bonded with their new pet. The children were involved with putting new water into the fish tank, setting up the accessories, and inserting the fish into his new home. The fish habitat was set up in the Pet + Lessons classroom, and children were left with a copy of the Classroom Pet Care Log to help them document details about caring for their new pet fish.

Table 17.

Pet + Lessons Group, Empathy Lesson 3

Researcher's Questions/ Provocations	Children's Direct Quotes/Responses	Researcher's Inferences
	Pippy grew over Thanksgiving! So we changed from giving him 2 pellets a day to 3. Do you know what? I got to feed Pippy before we went on break!	
Do you remember what special word Pippy is helping us learn? How do you think taking care of Pippy has helped you learn empathy? What decisions do you have to make?	Empathy. You feed him and watch him…if we didn't feed him, he would die. We needed to learn about what to do…every week we need to clean the tank. It helped us learn empathy because you might think he doesn't look hungry, but he actually is, and we have to learn decision-making. Make decisions, like how many pellets, what time we're going to feed him, consequences, responsibility, keeping his bowl clean, and if we overfeed him, he will die. He helps us learn empathy because he makes us feel better…if you're sad you can talk to him, and it makes you feel better, and you can talk to him about problems. It's amazing to have a fish…it's special, because some of us, only A and E are the only ones who've ever had a class pet, so it's fun for the other people who have never had a class pet to take care of.	
Now we are going to read a story about a fish named Nemo…As we	L said she looked at the faces in the storybook illustrations to "read emotions." She explained you could tell how the characters were feeling by looking at their faces; she did this throughout the entire story.	*L is able to show her empathy when she thinks about how the characters were*

read the story, think about as many examples of empathy from the different characters you can think of.	*Here are some of the children's direct quotes during the whole group discussion:*	*feeling in each different story scene.*
	How you think someone else feels…lots of emotions, like worried, scared, happy, or furious.	*Evidence of students thinking about different types of emotions, and students explain their thinking.*
	What does furious mean?	
	A type of anger.	
	Nemo has a lot of emotions!	
Can you draw an example of different emotions in your **empathy journals**?	This dude was greedy…that person, that shark, he is greedy, and they like to eat innocent animals. A shark feels good because sharks are greedy and like to eat innocent creatures.	*This child is thinking from the shark's point of view; although he does not agree with eating innocent creatures, he knows that is acceptable from a shark's perspective.*
	Here are verbatim responses from children describing what they drew in their **empathy journals**:	
	Happy: when Nemo was happy for the first day of school.	
	Worried: Marlin was scared because they were going somewhere dangerous.	*All of these responses provide evidence of the students' abilities to think from different characters' points of view.*
	Excited: when Nemo and Dory found each other!	
	Happy, by his facial expression, I can tell he is happy.	
	Excited was – he was excited when he found his dad at the end of the story.	
	Scared reminds me of empathy because Nemo was scared when the dentist girl who killed fish came to get him.	*The third graders talk about lots of different emotions that were experienced by the characters throughout the story.*
	So, remember when at the end of the story, Nemo was happy to see his dad, because he hadn't seen him the whole story? And confused was when he met Dory, and he couldn't find his son. Angry, shark.	
	Worried, scared, excited, angry, furious, mad, brave, confused, happy…if you see it coming, you would scream, if you didn't, it would be a scary scare. Fish	

	are friends, not food – he is happy for his friends and protecting the fish. His dad was furious because he didn't want him hurt. Worried, happy, angry, scared, brave. The dad was worried about his son for the first day of school. He had to go to school and be angry at his son instead of worried like he was at the beginning, Dad was angry because Dory got dared to go touch the boat even though he wasn't supposed to. He was excited at the end when he found his dad! The little fish was happy when he saw his dad. It's Nemo when he's going to touch the boat…Marlin's scared. Nemo's probably scared because he's about to get grabbed, and the scuba diver's going to take him. He is feeling scared and worried because he's afraid the shark will eat him. It makes me sad to hear.	*It shows evidence of their empathy when they talk about being "sad to hear," because they are able to put themselves into that character's position and imagine what the characters are going through.* *This lesson also meets literacy standards by having the students think from characters' or narrator's points of view.*

Note – Lesson conducted on December 5, 2019, from 1:10 – 1:45 pm in Guidance Counselor's room. Pet + Lessons Group – Empathy Lesson #3.

The children had a lot to say and share during this lesson. They talked about how Pip had helped them to learn empathy by practicing decision-making skills; if they made a wrong choice or decision that could impair the fish's health or well-being. In addition to discussing what they had learned from taking care of the pet fish, children were extremely articulate in describing what they had learned about empathy by examining different characters' perspectives or points of view. Students were able to elaborate and provide specific examples from the story. This indicates that the fish has been a tangible, concrete tool to help the children learn about empathy, and the stories have been additional outlets for students to demonstrate their understanding of empathy and how it relates to different emotions.

Table 18.

Pet + Lessons Group, Empathy Lesson 4

Researcher's Questions/Provocations	Children's Direct Quotes/Responses	Researcher's Inferences
Reflecting on the project: What have we learned about empathy? *It was interesting to me that when I specifically asked, "What have we learned about empathy?" that they immediately thought of responsibility and taking care of the pet fish. We know that both empathy and responsibility are components of pro-social behaviors, and it would appear that taking care of the pet fish during this study helped them to learn about empathy in regards to having to take care of something else or being responsible for something/someone other than one's self.*	Responsibility. How to take care of it [the pet fish]. We can learn to read emotions, like cats purr when they're happy. Dogs growl when they're mad. They whimper when they're sad. You can read emotions on your pets or animals. Can you read emotions on your friends? Some kids might not want friends because they already have someone they want to play with… But most kids want friends.	*I was impressed that the children brought up the point that we can "read emotions" from our pets or animals, and then use that skill to "read emotions" from our friends. Have the empathy lessons helped the third graders to think more about reading their friends' emotions, or at least become more aware and less egocentric?*

Note – Lesson conducted on December 12, 2019, from 1:10 – 1:45 pm in Guidance Counselor's room. Pet + Lessons Group – Empathy Lesson #4.

    This final lesson was spent brainstorming the things the children had learned about

empathy. The students' responses would lead one to believe that using animals or pets can be an

effective tool for teaching empathy, as the children made the connection that you can "read

emotions" of pets or animals, then apply that to your own knowledge of empathy and noticing

behaviors, emotions, or experiences of others. Below are images of children working in their empathy journals during the study:

Images 1 and 2.

Children Working in Empathy Journals

Interpreting the data. Based off the qualitative anecdotal records used to summarize the learning from each empathy lesson, it is evident that the third graders from both the Lessons Only and Pet + Lessons groups have a clear understanding of empathy in terms of thinking from another person's point of view. They were able to recall the term *empathy* week after week and articulate sophisticated definitions of such an abstract term, providing many examples from the stories or provocations used. The Pet + Lessons group became actively involved in caring for their pet fish, and this fish became a tool used to help demonstrate how we can have empathy for others. For example, the children made the connection that the pet fish helped them learn

responsibility and helped with their decision-making, because now they were responsible for thinking about not only themselves, but for the well-being of their beloved pet Pip.

Certain topics emerged throughout the lessons, such as death, family, feelings, and pets. In the very first lesson with the Lessons Only group, the children started thinking of artifacts that precious loved ones—many of whom had passed away—had given them. The children began talking about grandparents or other family members who were deceased, and they were able to demonstrate a level of empathy for one another. Since they all had had a similar experience of losing a loved one, they were empathetic toward their peers who had experienced this same situation.

Feelings became another common theme among all children; in the initial lesson, many of them associated the definition of empathy with feelings or emotions. This correlates with the Hollywood definition of empathy from *Funny Face* when Hepburn's character says, "You actually *feel* what the other person is feeling" (Edens & Donen, 1957). The children discussed a wide range of feelings or emotions experienced by the characters in the lessons, such as anger, fear, worry, happiness, sadness, and excitement. They also used more sophisticated terms such as feeling "traumatized" or "furious" when asked how they thought a character from the story felt in a certain situation. In the specific lessons with stories such as *Coat of Many Colors* or *Finding Nemo* the children were able to demonstrate their empathy by feeling what the characters were feeling; they were able to successfully put themselves in the different characters' places and think from their perspectives or points of view. They also related what characters were experiencing to their own personal situations; for example, almost every child could relate

to how Nemo felt when separated from his dad because they, too, had been lost from their parents.

Pets naturally infiltrated into the conversations among the children in the Lessons Only group, even though their group was not participating with a classroom pet. Even during the pre-test, children were extremely emotional about the two questions regarding pets, and they were adamant that 1) you should never harm animals, and 2) it is not silly for pets to be considered as if they have feelings, too. The entire study was built upon the probability that classroom pets could potentially help enhance empathy levels in young children; without ever being prompted, the students in the Lessons Only group began talking about how their pets helped teach them empathy. Likewise, in the Pet + Lessons group, students reflected in the last lesson on how we can read emotions on pets and understand what they're feeling (i.e., dogs growl when angry and whimper when sad). This notion provides evidence that most children have a natural affection for, and connection to, their pets, and those who had never had a class pet were excited for the opportunity to care for the pet fish Pip. One child described caring for the pet fish as "amazing," indicating that the type of pet does not hinder the level of excitement or engagement. In the early childhood years when the development of prosocial behaviors is so important, this study provides evidence that pets can be a natural and effective tool for teaching empathy.

Qualitative Interviews With Classroom Teachers

In addition to the qualitative anecdotal records summarizing each empathy lesson (Appendix F), and the children's empathy journals, interviews were conducted at the very end of the study with each of the four classroom teachers and the guidance counselor in an effort to better understand the impact that this study had on the children. It was believed that the

classroom teachers would be better able to observe differences in the children's prosocial

behaviors more so than relying solely on the children's self-reported quantitative data from the

pre-test and post-test scores (Appendix E). The verbatim transcriptions from each teacher

interview can be found in Appendix G; below are tables to show the most significant information

extracted from each interview:

Table 19.

Teacher Interview, Control Group

Interview questions	Teacher responses
Do you think they [students] could benefit from being around a classroom pet?	I think they could because a classroom pet is not going to have anything negative to say, and all they're going to feel are those warm, fuzzy feelings about an experience that they might not have a chance to partake in outside of the classroom. They may not have an opportunity to be able to provide for an animal or care for an animal, so I really think that would help them to see that they're caring for something that's living and allowing it to be able to thrive and grow, and maybe they would see that they could do the same thing if they were handled in the same way.
What is your opinion about having a classroom pet, or suggestions that you would give other teachers thinking about doing a pet?	I'm the one that was allergic to the guinea pig…I love the idea of a classroom pet, because, again, we're a family, we work together, and I think it would be teamwork to care for a pet. I love the idea if we could have one, like a fish, that would suit everyone, because I had some kiddos that were allergic as well and were unable to do that, but just so they can see the teamwork and how they can work together on their level of responsibility… Caring for something else could prepare them later on in life for taking care of themselves in addition to if they have their own families one day. I know it's a very small scale about a classroom pet, but you've got to keep it living, so that's the same thing if they have children one day.

	I love the benefit of it – just trying to figure out the maintenance of it and all of that and what all the kids can do or can't do. I love the idea, and I would recommend it for anybody. I've heard great things from Mrs. H with the classroom fish, it's great!
In third grade, what is your approach for project work?	It's starting a project from start to finish and following it all the way through and investigating and researching and making sure you have what you need to be successful, which kind of relates itself to a classroom pet! So from the time you get it, to the time it dies, it's that follow-through of taking care of your responsibilities.
What is your opinion about teaching empathy, or do you have ideas for other teachers who are trying to teach empathy?	I think it's an important skill in life. We don't want them to just be sympathetic. We want them to, even though they truly can't understand what someone is going through, to kind of help feel and understand their pain. Be understanding and compassionate about that, even though they may not be able to relate. That's an important life skill, not just something that we can teach them in the classroom. I feel like empathy could go a long way in life. It's one of those that could help build their character and create better individuals who will be caring for themselves one day and taking care of others.

The Control Group teacher indicated that she was unable to house a potential pet guinea pig because of her known allergy to pet dander. Originally, there were concerns that using a pet fish would be a limitation to the study, but from this teacher's perspective, a pet fish is actually better because it could suit everyone in the classroom, and the students would still have the opportunity to care for a class pet. This teacher's personal perspective helped to add justification as to why using a pet fish could be beneficial. Another interesting point that this teacher reiterates is the idea of a "family" classroom culture and how a class pet can support or enhance

this sense of "family" at school. She also connected pets to project work, explaining how caring

for pets can become a project all on its own because you have the commitment and responsibility

to follow through and care for the pet "till death do us part."

Table 20.

Teacher Interview, Pet Only

Interview questions	*Teacher responses*
Can you talk about the challenge of having a guinea pig?	It's more of a challenge of cleaning it; they require a lot more attention than a fish. Like a fish, I can just drop in and drop some food in, and the fish doesn't miss me. But a guinea pig needs that love and attention, and they're sweet, but… We had parents sign up to take the guinea pig home over the weekend, and then you worry about – will it be okay? It was a lot more work than a fish.
Can you notice a difference in how the children responded to one over the other?	No. Both of our fish died, unfortunately. But the kids would still gather around, and they have always gathered around the aquarium and would look at the fish. They looked forward to being the one that got to feed the fish that week, so they seem to enjoy it just as much. The girls would make little clothes for the guinea pig and would get it out some, but they seem to enjoy the fish just as much as the pig.
Do you think that having the pet fish helps teach empathy?	I do. And it helps with responsibility, too. Caring for other things, I really wish our school would get a dog or a cat that would trot around the school because I think—we used to have

	Golden Retrievers that would come in and read with the kids, and it's special.
After participating in this study, what is your opinion about having a classroom pet, and what suggestions would you give other teachers who are thinking about it?	I think it's important. It teaches kids to care and to think about other beings, whether it's a fish, whether it's a guinea pig… I think pets are important. I grew up with pets as a child; I just think having those creatures who love you and need you is a very important part of being a human and learning to take care of other people.
Did you ever notice those children you talked about [with special behavioral issues] gravitating towards the pet fish?	The one that I talked about that was especially emotional, he would. Sometimes he would just go over and watch the fish swim back and forth. That could help soothe some of the emotions that were going on in him.

During the interview, the Pet Only teacher shared that she had experience and training working as a social worker before becoming a teacher. This is particularly interesting to note, because her group experienced the greatest increase in empathy scores before and after the study. Even during the pretest, the overall atmosphere or environment of this teacher's classroom was very calm and welcoming, where children felt it was safe to share and ask questions. Could it be, then, that the teacher's nurturing attitude and knowledge on children's social emotional development also play vital roles in teaching empathy? Once again, the choice of using a pet fish was justified in this interview because the teacher explained that she could tell no difference in the level of excitement from children whether they had a guinea pig or fish as classroom pets.

Table 21.

Teacher Interview, Lessons Only

Interview questions	**Teacher responses**
Have you noticed any difference since they've been having the empathy lessons?	There were several students that went like out on the playground: if somebody got hurt, everybody running up to them and really trying to be supportive, and I did notice several instances like that.
After participating in this study, do you have an opinion on having a pet in the classroom?	My problem with a classroom pet is I just don't…I'm here from 7 am until 6 pm every single day, and having a pet would be another good hour a week of cleaning cages or tanks or whatever… And then the money, so that was my whole thing. I'm the science teacher; I wasn't looking at the emotional, social aspect of it, I was looking at it from the scientific aspect of it, trying to meet our standards.
Do you think finding a pet with low maintenance could be positive?	I'm all about having a classroom pet, it's the added work, and these kids are not old enough to put them in charge of cleaning out a glass tank—it's just not going to happen.

The Lessons Only teacher shared with me that she had been in the field of education for less than 10 years. Just based off of basic observations, it would appear that her classroom management style is a bit stricter than that of the other three teachers involved in the study. For example, children did not openly share or ask questions, and they remained very quiet during interactions such as the implementation of the pretest. This teacher also explicitly stated that she was hesitant about housing a pet in her classroom because of the additional time and financial constraints associated with having a pet. This would confirm that a teacher's overall attitude on pets is a logistical factor, but using a low-maintenance, non-invasive pet such as a fish could prove to be a positive experience for both teachers and students alike.

Table 22.

Teacher Interview, Pet + Lessons

Interview questions	Teacher responses
Have you noticed how the children have responded to some of those empathy lessons?	Yes, I have…
	I have noticed the kids have been more gentle with each other, more understanding of each other.
	There's just been more of an awareness.
	It's like that saying of "you never know what somebody else is going through," so I feel like my kids have that understanding of, "I don't know what's going on in so-and-so's life, and they might be acting crazy, but I'm not going to call them out for it or be rude to them or make it worse; I'm just going to try to be a kind presence."
After participating in the study, what's your opinion on having a classroom pet, or what suggestions would you offer other teachers who are thinking about getting a pet?	I have enjoyed it.
	I had a classroom pet my first year teaching, and the kids kind of had to work for it in order to receive it, so I think that there has to be more; there has to be a deeper purpose to having the classroom pet than just for the sake of having it.
	Whether it's tying it to behavior like I do with the Secret Student and being able to share in the responsibility for caring for him, based on our actions and the choices that we make, or if it's tied to social-emotional learning or some other topic where they learn from it rather than just having it sit there.
	I think that's a really important aspect because it helps give them that buy-in; it gives them that responsibility.
	It holds them accountable, knowing that he's part of our classroom family now!
	And the kids really feel that; they know it's obviously not just like having a dog, but in a way, it's kind of like having a dog where you have to keep up that responsibility and your end of the bargain.

The Pet + Lessons teacher was the youngest of the four participating teachers with the

least years of experience in education. She was extremely welcoming and receptive to the idea

that the pet fish could be used to help teach students about empathy. It was in this classroom that

the principal had mentioned the high number of behavioral problems among the students, and

both the classroom teacher and the principal agreed that the children would benefit from the

extra individualized attention and instruction. The children in this group proved to show a

tremendous amount of engagement in both caring for the pet fish and participating in the

empathy lessons. Just like the Control Group teacher, this teacher also recognized the pet as

becoming a part of the "classroom family." At the beginning of the study, this teacher shared

that she was unsure if she would want to keep the pet fish permanently in her classroom;

however, the children formed such a strong attachment to Pip that she was excited to adopt and

keep him as a permanent part of her classroom. This provides evidence that children are able to

form strong attachments to pets, regardless of what type of pet.

Table 23.

Teacher Interview, Guidance Counselor

Interview questions	Teacher responses
During this study, have you noticed any changes among the third graders?	I have, especially the two classes that have come in weekly. I've heard them talking about empathy in many different scenarios outside of the class. We were writing Christmas cards for the children in the children's hospital, and just listening to their conversations about empathy, and how they could only imagine what that would be like, was really cool to hear.
Can you describe how you thought the children responded to some of those lessons we had on empathy?	I think empathy is a complex thing to get children to understand, so the way it was broken down by the books, the fish…I think it was very age appropriate. It was hands-on, which I think helped a lot.

	I really wasn't sure at first, but as we went through it, I saw them really taking to it well.
As the guidance counselor, do you have suggestions for other teachers who are trying to teach empathy?	I think empathy's a bigger concept for kids to understand, so I think the more hands-on…having the pet in the room, I think that was a really great way – something they could really relate it to.
Is there anything else that you've observed throughout the study?	I feel like this is something the students will not forget, and I feel like now that they really understand empathy, I think that we will…we've already seen the positive change, and I think we'll continue to.
	Hopefully it'll help eliminate bullying incidents, them feeling confident enough to be up-standers, because empathy plays a big part in all of that, so I think it'll help our all-around school climate, I really do.
After participating in this study, what would be your opinion on having a classroom pet, or what do you think other teachers should know about having a pet?	Oh I feel like that would help tremendously.
	I felt like that was part of empathy being so abstract, that it makes it a little more hands-on and tangible for the children to understand.
	For instance, with the fish, when we were talking about over-feeding the fish or during the weekends what if the fish doesn't eat…the kids really emotionally responded to that, and you could tell how it really bothered them, the thought of the fish not getting enough food or it getting too much and it hurting them.
	I felt like a pet is a fabulous way to do that.
	And there was not one student that did not agree with that, they all were on board.

The guidance counselor played a major role in assisting with the empathy lessons. She was there to observe both groups of children who received treatment in the form of lessons—the Lessons Only and Pet + Lessons groups—for the whole duration of the study. Being around the children more often, she could also identify specific examples of them demonstrating empathy outside of the lessons during the study. In her interview, she specifically talks about how empathy is an abstract term that can be hard for children to grasp, but this study provided concrete, hands-on opportunities for children to learn about empathy in a developmentally appropriate way. She identifies the pet as a tangible tool that can be used by teachers to promote

empathy. The guidance counselor maintains a positive attitude that the work performed during this study will benefit the "all-around school climate."

Coding for Themes. Creswell (2015) encourages researchers to segment qualitative data into themes or categories. Typically, the researcher identifies a small number of topics to present after the narrative or interviews in order to provide depth or insight in understanding the teachers' experiences (Creswell, 2015). Creswell (2015) suggests identifying five to seven themes for each topic to extract the most important or significant information from the interviews. In this case, all interviews were transcribed verbatim; all teachers participated in a member check (Creswell, 2015) to ensure accuracy of their accounts, which helped support the fidelity of the study. After teachers confirmed their accounts were accurate, another graduate student and fellow researcher from the Applied Sociology Department listened to the audio recordings of each interview to confirm transcriptions were accurate.

Once member checking and inter-rater reliability with the transcriptions were complete, all interviews were read and systematically coded by two different researchers to identify topics and emergent themes. An initial analysis was conducted to sort and categorize information extracted from the interviews. This extraction and sorting of information was performed in an effort to look for commonalities; information was then sorted into several categories. The categories were then combined and refined to create the topics and themes.

In addition to the researcher, an independent coder with over 30 years of experience in early childhood education and extensive knowledge on research practices also coded the data. This second researcher used the same transcripts and same coding processes as the initial researcher. The initial codes and the codes generated by the second researcher were combined

together; communication and collaboration were ongoing until a 100% agreement among coders was reached.

Four major topics were identified, including: Students, Teachers/Counselor, Classroom Pets, and Lessons/Empathy. For each of the four topics, several themes emerged based on the teachers' responses. Along with the verbatim interview transcripts (Appendix G), the entire coding process documenting systematically how topics and themes emerged can be found in Appendix H. Below is a table that outlines the finalized list of topics and themes that emerged after transcription and coding:

Table 24.

Emergent Themes

General Topic	Identifiers from Interviews	Emergent Themes
Students	Students' behaviors: what is the social-emotional climate of each classroom? Positive changes in students' prosocial behaviors during study Examples of students' antisocial behaviors prior to study	• Wide Range of Students – some struggling with emotional instability and/or anxiety, while others excel in showing compassion and understanding to peers. • Trauma, Problems at Home, and Medical Diagnoses • Increase in Mindfulness and Awareness • Knowledge and Understanding of Empathy • Responsibility and Intrinsic Motivation/Investment • Attention & Affection Seeking Behaviors

		• Coercion • Jealousy
Teachers/Counselor	Personal Beliefs Teaching Styles	• Creating a "Family" Classroom Culture • Golden Rule • Showing Love & Comfort • Teaching Empathy and Acts of Kindness • Classroom Management – using strategies to manage challenging anti-social behaviors • Teacher Knowledge of Cause & Effect • Resources Outside the Classroom
Classroom Pets	Benefits Personal opinions on having a classroom pet Did you notice a difference in how the children responded to the fish over the guinea pig?	• Positive Experience that might not be Possible at Home • Calming/Soothing Emotions • Learning How to Care for Others • Responsibility & Teamwork • Hands-On, DAP, Concrete way to Teach Empathy • Assisting Teacher with Behavior • Meeting Standards • **Logistical Concerns** – Allergies, Maintenance, Schedules, Time, & Money • Differences in Emotional Needs for Pets (Guinea Pigs versus Fish) • Differences, but not in the level of enjoyment
Lessons/Empathy	Opinion about teaching empathy	• Empathy as an Abstract Concept • Important Life Skill • More than just Sympathy

	Extending the Empathy Lessons	• Involve Whole School • Longer Time Frame

Interpretations From the Qualitative Interviews. After the coding process, researchers

went back and looked for trends, or themes that multiple teachers mentioned in their interviews.

Themes that were mentioned by more than one teacher included the *classroom culture of family*.

The theme that emerged in the interviews with both the Control Group teacher and the Pet +

Lessons teacher was that they have a "family" culture in their classrooms. It was positive that

each of these teachers recognized and talked about the benefit of adding a pet to that "classroom

family," and how the pet is an effective tool to use to teach the children prosocial behaviors like

empathy, compassion, and responsibility. Both the Control Group and Pet + Lessons teachers

recognized that their classrooms have a family-like culture, and concurred that the classroom pet

became a part of that classroom family.

Another theme mentioned by more than one teacher had to do with the *type of classroom

pet* presented to children. The Pet Only teacher explained that she could tell no difference in

children's level of excitement whether the pet was a guinea pig or a fish.   Likewise, the Pet +

Lessons teacher touched on this theme by saying that it obviously wasn't exactly like having a

dog, but it was "kind of like having a dog" because children still had that same level of

responsibility.

One commonality that was found in all of the interviews was the fact that there were

many students with emotional issues—students that had experienced trauma (Control Group),

children with medical diagnoses (Lessons Only group), or children that just had a lot of

emotional issues (Pet Only and Pet + Lessons groups). This commonality was identified under

the topic of Students and was connected to the question on the social-emotional climate of each

classroom. From these interviews, it was teachers' personal belief that having a pet in the classroom was a beneficial tool to combatting some of these emotional or behavioral issues. The Control Group teacher discussed how the pet would not have anything negative to say, so this provided a safe place for children to express thoughts or ideas if they interacted with or talked to the pet. The Pet Only teacher talked about a child with severe emotional issues finding soothing comfort in watching the fish in the tank swim back and forth. The teacher in the Pet + Lessons group elaborated on how the pet had caused the children to be gentler with one another and had increased awareness among the students. All of these provide specific examples of how the pet proved to be an advantageous addition to the classroom's social-emotional climate.

Another theme that emerged was teachers' opinions on having a pet in the classroom. Both the Control Group and Lessons Only teachers mentioned the *logistical concerns* of housing a classroom pet: the Control Group teacher looked at it from a health perspective, explaining that it would be nice to have a pet that could suit everyone regardless of allergies, while the Lessons Only teacher identified time and money as factors that would impact her decision to not have a classroom pet. In both instances, having a pet fish is seen as a beneficial solution because everyone can participate without the fear of potential exposure to allergens or pet dander, and the fish is a very low-cost, low-maintenance pet that will still provide children with the opportunity to experience having a pet. The Control Group, Pet Only, and Pet + Lessons groups all had teachers who were enthusiastic about having a pet in the classroom; however, the teacher in the Lessons Only group seemed more skeptical or hesitant to commit to having a classroom pet because of the additional time and financial constraints associated with pet care and maintenance. The insight gained from the coding process was that by having a pet that is low maintenance, like the pet fish, children can experience the many positive benefits of classroom

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pets while the teachers accommodate a pet that requires very little funding, time, and attention.

An additional bonus to using the pet fish was that this is a pet that, as the Control Group teacher

explained, suits everyone. Regardless of one's allergies, everyone can engage in caring for the

pet fish. Something that the researcher thought might be a limitation of the study (the lack of a

"cute and cuddly" pet) turned into a positive experience for all involved. Initially, it was

worrisome to switch from a guinea pig to fish. The children reported in their lessons that having

a pet fish had been "amazing," and the Pet Only teacher pointed out in the interview that there

does not seem to be a difference in the level of enjoyment among students.

Summary

This chapter presented the results obtained from both quantitative and qualitative data

collection procedures. All groups that received treatment were compared with each other in

order to examine differences between groups in an Analysis of Variance, or ANOVA. To

examine differences within groups, changes in mean empathy scores were analyzed, and

variables such as sex and age were discussed. In an effort to gain a deeper understanding beyond

the quantitative analysis, qualitative data such as anecdotal records from lessons conducted with

children, children's empathy journals, and teacher interviews were presented.

Triangulation, or using more than one method for data collection (Creswell, 2015),

helped to assure validity by using a variety of data collection procedures including pre-test/post-

test scores, students' direct quotes from their empathy journals, teacher interviews, and

researcher field notes. Strategies such as member checking and inter-rater reliability were

implemented to ensure fidelity of the study. Both the quantitative and qualitative data provided

evidence that using a classroom pet, alone or in combination with the empathy lessons, had a

positive impact on students' empathy levels. Because of the small sample size, this study

provides exploratory data with evidence to support positive outcomes by using a classroom pet to

teach empathy, but it does not provide enough power to prove statistical significance. Chapter 5

will conclude with a discussion, along with the limitations of this study and implications for

future practice.

Chapter 5: Discussion

This study sought to determine whether a certain treatment regimen—exposure to a consistent classroom pet, empathy-based lessons, or a combination of both—would have any impact on third graders' prosocial attitudes, specifically empathy. The sample consisted of third graders from four different classrooms in the same public elementary school in Northeast Tennessee, with a total sample size of N = 44 (22 males and 22 females). The four classrooms were each assigned as a different group: the first classroom a Control Group with no pet and no lessons, the second classroom the Pet Only group with the pet fish but no lessons, the third classroom the Lessons Only group with no pet but a series of 4 consecutive empathy lessons, and the fourth classroom the Pet + Lessons group which received the most treatment or support by having a pet fish in addition to receiving the 4 consecutive empathy lessons. It was hypothesized originally that the Pet + Lessons group would experience the greatest or most significant change in empathy levels because this group was receiving the greatest amount of support or treatment.

Data collection methods including administering a quantitative, 22-item pencil-and-paper questionnaire, the Bryant Index of Empathy for Children and Adolescents (Bryant, 1982) to all students at the beginning of the study to obtain pre-test scores of empathy for all participants. This same measure was delivered again at the very end of the study to obtain post-test empathy scores for all participants. Changes in mean empathy scores were examined using statistical processing software. Qualitative data collection methods were also used during and after the study. For the two groups receiving the empathy lessons, anecdotal notes documenting students' direct quotes were kept in order to outline the learning that occurred in a project-based manner over the course of the 6-week study. Interviews were conducted at the very end of the study with the students' classroom teachers and the guidance counselor to examine the teachers'

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perspectives. Results indicated that both teachers and the guidance counselor noticed changes among the students' prosocial behaviors throughout the study. Information obtained from the teacher interviews also helped provide more clarity on understanding teachers' perspectives on teaching empathy in the classroom and how they felt about integrating pets into their classroom communities.

Summary of Findings

As expected, all three of the treatment groups—the Pet Only, Lessons Only, and Pet + Lessons groups—experienced improvement between their pre-test and post-test measure of empathy. The Control Group, which received no treatment, actually experienced a decrease in empathy between the pre-test and post-test. The Pet Only group had a bigger increase in empathy scores than the Pet + Lessons group; as originally hypothesized, it was predicted that the group which received the most treatment would experience the biggest increase in empathy, but this was not the case. It is likely that because the principal chose that group because of the higher number of children with behavior problems, this impacted the results. However, all of the groups that received the treatments did increase whereas the Control Group declined, which provides preliminary evidence that empathy-based lessons and classroom pets do make a positive difference in children's prosocial development.

Aside from thinking about the actual treatment, age was an interesting factor in this study. According to results from both the pre-test and the post-test, the younger 8-year-olds showed a bigger increase in empathy levels than their 9- and 10-year-old peers. This would support notions found in the literature that children around age 8 years or in third grade are at an age where learning is at a critical point, especially with learning more positive prosocial behaviors that support healthy social-emotional development.

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In addition to age, sex is another variable that is often discussed in studies on empathy. In many studies, boys were found to be less empathetic and more aggressive than girls; whereas, girls tended to show more empathy and to be more nurturing and compassionate than their male peers (Feshbach & Feshbach, 2009; Leff et al., 2001; Sprinkle, 2008). Results from this study supported this notion in three out of four of the groups. In the Control Group, the Pet Only group, and the Pet + Lessons group, females had a higher mean average score on both their pre-tests and post-tests; however, in the Lessons Only group, males had a higher overall average score for empathy.

Discussion

Children were very aware of, and concerned with, treatment of their animals or pets. Indicators from the pre-test and comments children made during the weekly empathy lessons suggested children were passionate about pets. One big thing noticed when analyzing the data for this study was related to a specific item on the questionnaire (Bryant, 1982) which read, "I get upset when I see an animal being hurt." Without even talking about the introduction of a classroom pet or explaining to the children that caring for pets was going to be a huge piece of this study, children taking the initial pre-test were extremely passionate and animated in response to this statement. Many children consistently in all four classrooms marked their pre-tests with "TTT," meaning this statement wasn't just "True," they wanted me to know they felt very strongly about this item and it was very, very "True." Even in different classrooms and different groups, many of the children responded to and marked their tests in this fashion.

Not only did the children mark their papers in this distinctive way, but several of the children actually spoke out during the pre-test, sharing anecdotes about their own pets at home or specific examples they had experienced with animals. For instance, several children talked about

how sad they felt when their beloved pets had passed away, while others talked about how upset they felt when they saw dead animals in the road that had been hit.

Children marking their tests this way and making comments connected to their previous experiences with animals provide evidence that most of the children at that age are very aware of and concerned with treatment (or mistreatment) of animals, indicating that using classroom pets could be a meaningful way to teach the children about empathy. It was found in the teacher interviews that some of the teachers felt strongly about the classroom pet being a way to teach the children how to take care of, and be responsible for, other living creatures, and based off of the passionate responses from the children, classroom pets could be a powerful tool to use to promote more prosocial behaviors (like empathy, compassion, and responsibility) in the classroom.

There was one other question on the pre-test/post-test (Bryant, 1982) that posed some controversy: the question was, "Even when I don't know why someone is laughing, I laugh, too." The answer key to the questionnaire (Bryant, 1982) says that the most empathetic answer would be "True;" however, a closer, more controversial look at this question would be what if the other children were making fun of or laughing in a negative way at another child. In this context, then, children should not laugh at others when they do not know why they are laughing. This question could be too ambiguous to interpret.

Limitations of the Study

Things that limited this study included: use of a convenience sample, lack of random assignment, and small sample size. These limitations impacted the generalizability of the results as well as the inability to have enough power to analyze the data as desired. The use of a convenience sample and the lack of random assignment to groups was a major limitation.

Without random assignment to groups, there was no way of knowing whether the groups were significantly different to begin with, and there is some evidence that this was the case based on the principal's request to have the students with the most behavior problems in the Pet + lessons group. Because of this study's small sample size, exploratory data was obtained. The small sample size did not provide enough power to prove statistical significance; however, preliminary statistical analysis can be useful.

Implications For Future Practice

Future research studies could address the limitations of this study by using a larger sample size and having random assignment to groups, which would allow for a clearer picture to emerge. Other implications could include involving the parents more in the study and extending the study.

One suggestion for future research might be to involve parents more in the study. For instance, teachers were interviewed at the end of the study to gain perspective on how students' behaviors had changed in the classroom after learning more about empathy and being exposed to the classroom pet. Interviews with parents could help the researcher learn if anything from the lessons is being discussed at home, or if the children are exhibiting more empathetic behaviors in the home. During the interviews, teachers shared that after having the pet fish in the classroom and caring for the fish, children became more aware of each other; they started to be gentler with one another and checking on each other more often. Interviews with parents could have provided information on whether these behaviors and what children were learning about empathy were being carried over into the home. Another idea to engage families was to have parents add a fish to their home. The child would be responsible for the pet care, and then parents could be interviewed on what happened with the pet at home.

In the teacher interviews, it was suggested to extend the intervention for a longer period of time. Another recommendation from the teacher interviews was to make the intervention school-wide instead of only including third grade. Of course for future research it would definitely be interesting to experiment with different types of classroom pets. Would guinea pigs have been vastly different from the pet fish? Teachers in classrooms across the country integrate pets, and it seems that every teacher has his or her own personal philosophy about which pet is best. For future research, it is important to encourage teachers to use what works best for them.

Conclusion

Research questions were answered using evidence from the quantitative pre-test/post-test measures, the qualitative anecdotal records from the students' empathy lessons, and the qualitative data from the teacher interviews. This triangulation of data helped to establish reliability and validity within this study. Using the Bryant Index of Empathy for Children and Adolescents (Bryant, 1982), quantitative data was analyzed, and the changes in mean empathy scores from the children in all four classrooms were examined. Results indicated that the Control Group's empathy scores declined throughout the study, while the three treatment groups experienced a significant increase in empathy levels after exposure to the pet fish, the lessons, or a combination of both. The data from the empathy lessons helped document the learning process and how conversations unfolded with each empathy lesson in a project-like manner. The children's words and direct quotes provide strong evidence that they were able to think about situations from different perspectives, whether it was thinking from the perspective of their pet fish or from the different characters in the stories. Data from the teacher interviews indicated that this was a positive experience for the third graders, and the teachers did notice changes in behavior among the students.

Perhaps one of the biggest conclusions from this study would be the importance of advocating for the use of pets in the classroom and to empower teachers to use these pets as a meaningful way to teach empathy to young children. Adding a classroom pet can be a big commitment—physically, emotionally, and financially. Classroom teachers should feel encouraged that integrating even a small, non-invasive pet like a fish (which requires minimal maintenance) can have a positive impact on children. Teachers should find what works for them to introduce a pet that "suits everyone."

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APPENDICES

Appendix A: Bryant Index of Empathy for Children and Adolescents

Bryant, B. (1982). An Index of Empathy for Children and Adolescents, *Child Development*, 53, 413-425.

Items in *italics* score negatively.

1. It makes me sad to see a girl who can't find anyone to play with.

2. *People who kiss and hug in public are silly.*

3. *Boys who cry because they are happy are silly.*

4. I really like to watch people open presents, even when I don't get a present myself.

5. Seeing a boy who is crying makes me feel like crying.

6. I get upset when I see a girl being hurt.

7. Even when I don't know why someone is laughing, I laugh too.

8. Sometimes I cry when I watch TV.

9. *Girls who cry because they are happy are silly.*

10. *It's hard for me to see why someone else gets upset.*

11. I get upset when I see an animal being hurt.

12. It makes me sad to see a boy who can't find anyone to play with.

13. Some songs make me so sad I feel like crying.

14. I get upset when I see a boy being hurt.

15. *Grown-ups sometimes cry even when they have nothing to be sad about.*

16. *It's silly to treat dogs and cats as though they have feelings like people.*

17. *I get mad when I see a classmate pretending to need help from the teacher all the time.*

18. *Kids who have no friends probably don't want any.*

19. Seeing a girl who is crying makes me feel like crying.

20. *I think it is funny that some people cry during a sad movie or while reading a sad book.*

21. *I am able to eat all my cookies even when I see someone looking at me wanting one.*

22. *I don't feel upset when I see a classmate being punished by a teacher for not obeying school rules.*

Scoring

For school-age children, Bryant scored items dichotomously (1 or 0 for yes or no, true or false). For seventh grade or older, she used the same 9-point scoring system as Merabian and Epstein (1972), namely -4 (not at all like me) to +4 (very much like me). Negative items are reverse scored and items summed to obtain a scale score. I would suggest that scale scores be derived by

averaging, as such scores can be interpreted in terms of the response categories. In addition, averaged scores have less (error) variance than summed scores. Regardless of the response scale used for the items, or how scale scores are calculated, it is very likely that Bryant's scale is multi-dimensional (and therefore uninterpretable). If you use it, you should do a factor analysis to confirm that all items fall on a single factor.

Appendix B: Interview Questions for Teachers

<u>All Teachers:</u>

1. Please identify your classroom:

   a. Control group classroom (no pet, no intervention)

   b. Minimum treatment group classroom (pet, no intervention)

   c. Maximum treatment group classroom (pet and intervention)

2. Could you please tell me a little bit about the social-emotional climate of your classroom environment?

3. Before this study, did you notice many instances of anti-social behaviors (i.e., children being mean to one another, temper-tantrums, aggression)? Please explain.

4. During this study, have you noticed any changes to your classroom climate?

<u>Only teachers who received intervention:</u>

5. If your class received a classroom pet, could you please tell me about how you decided on the care and maintenance of this pet? Were the children involved in caring for and maintaining the pet, and if so, to what extent?

6. If your class received the empathy-based mini lessons, could you please describe how the children responded to these lessons?

7. After the researcher left the classroom, did you notice any extensions of the lessons or the children talking about what they were learning?

8. Did you notice if the children were learning specific terms or displaying specific examples of "empathy"?

9. Have you noticed in changes in empathy in the students over the last several weeks?

10. Is there anything else that you would like to add, or do you have any questions for me?

Appendix C: Classroom Animal Plan

1. *Animal Species and number (what animal do you plan to use and how many)?* One guinea pig in one third grade classroom at South Side Elementary School.

2. *Nutrition*

a. *What is the appropriate diet?* The nutritional needs of a pet guinea pig in the classroom setting "are best met by providing them with commercially available guinea pig pelleted feed" (AALAS, 2011, p. 15).

b. *How much food is required? How often?* Feeding should occur *ad libitum*, meaning to provide as much or as often as necessary or desired. However, guinea pigs do tend to "overeat, which causes obesity and urinary tract problems," so a veterinarian "can advise you on the proper amount to provide daily" (AALAS, 2011, p. 16). According to the AALAS requirements, the average adult daily food intake is 35 g or approximately 1.3 oz. Guinea pigs drink a large quantity of water; thus, "water should be available at all times," and "large-sized bottles with sipper tubes are commonly used" (AALAS, 2011, p. 16). Water bottles should be cleaned once per week along with the cage.

c. *Are there special vitamin or mineral needs for this animal?* Guinea pigs require a high level of vitamin C. "Generic rodent foods may result in a clinical deficiency," so "because vitamin C and other nutrients deteriorate rapidly, the feed should be stored in a cool, dark place for a maximum of 90 days after the milling date (a date stamped on the bag)" (AALAS, 2011, p. 15). If Pet Smart does not carry feed with a milling date, the researcher will obtain proper feed from the research lab.

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d. Is there fresh or live food required? No: guinea pigs in the wild are herbivores grazing on plants; however, in the classroom setting, they only require store-bought pelleted feed with milling date (because of vitamin C).

e. How will the food be stored? The food will be stored in a safe location in the classroom; the storage location will be a cool, dark place, and only for a maximum of 90 days after the milling date (AALAS, 2011).

3. Habitat

a. What kind and size of container/cage is needed? A store-bought cage from Pet Smart will be needed, along with materials (not cedar chips) to provide about a ½ inch bedding on the bottom of the cage.

b. Is there room for the animal to move around without hurting itself? Guinea pigs need "substantial floor space to exercise," but they "do not jump or readily climb, so the height of the cage is less important" (AALAS, 2011, p. 15). "Guinea pigs should not be housed on bare wire grid or solid bottom floors because they are prone to developing sores on the feet," (AALAS, 2011, p. 15) so to avoid these problems the cage floor will be covered with bedding—about ½ inch deep. I believe that the store-bought cage from Pet Smart will provide ample room for the animal to move around without hurting itself.

c. What is the environment for the animal? This animal will be kept in a classroom environment. *What is the ideal temperature?* Room temperature should be in the range of 63-79 degrees Fahrenheit. *What is the ideal humidity?* 30 – 70 percent humidity. *Is there adequate light or darkness?* The guinea pig will be stored away from any

windows to ensure that there is adequate light/darkness. The classroom teacher will be able to control the light switches to alter lighting in the classroom.

d. Where in the room will you place the animal so that it will have constant temperature and humidity? The guinea pig will be placed away from any windows and out of direct contact with any air vents; with those two factors in mind, the exact location is to be determined upon observation of the physical classroom environment.

e. Will any enrichment be provided for the animal, such as toys, exercise wheel, or a tunnel? The AALAS requirements encourage the use of enrichment (i.e, toys or treats); however, I believe that since the heart of this research is to promote empathy among the third-grade students, this should be discussed with them to decide on what types of enrichment will be provided for their classroom pet. ***Will the animal be housed singly?*** Yes, the duration of the study is 6 weeks and then the animal will be adopted out. During this 6-week period, safe and positive interactions with the students and teacher will be provided on a daily basis.

4. Care

a. Who will pick up the animal and handle it? The researcher will pick up the animal and all maintenance items (purchased from Pet Smart) and will deliver the pet and these items to the third-grade classroom at South Side Elementary School. At that point, the teacher and students will remove the animal from the cage and interact with it on a daily basis; the teacher and researcher will model for and educate the children on how to gently

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handle the animal. The goal is to promote positive bonding interactions between the students and their classroom pet.

b. What special things do handlers need to know about the animal? (For example, towels, gowns, or gloves may be needed for holding animals that have nails or urinate and defecate frequently.) The cage will need to be cleaned once a week, and cages should be washed with detergent and water; the classroom teacher should wear appropriate personal protective equipment (i.e., gloves) when cleaning the cage. Guinea pigs are "gentle animals and seldom bite;" however, "they are high-strung and may either freeze or run when frightened" (AALAS, 2011, p. 16). The handlers (students, classroom teacher, and researcher) should approach the guinea pig "quietly and confidently," and it can be "picked up by a gentle grasp around the chest while supporting the rear legs with the other hand" (AALAS, 2011, p. 16).

c. Does the animal bite or scratch? If yes, how will you prevent the handler(s) from being bitten or scratched? Guinea pigs seldom bite, but there is the possibility that it could accidentally scratch. If a student happens to be scratched by the guinea pig, the classroom teacher should follow normal first aid protocol (clean the wound, stop the bleeding if any, dress the wound with a bandage if needed, and monitor the child) and make a brief incident report to share with the child's parents.

d. How will students be trained to care for and handle the animal? Who will provide the training? Students will be trained based on a classroom meeting facilitated by the teacher and the researcher. During this classroom meeting, all will discuss the proper ways to care for and handle this animal. Students will also observe how the teacher

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models appropriate behaviors toward the classroom pet, and students will be instructed to handle the guinea pig gently.

e. Animals don't like changes in their environment. How will you accustom your animal to the new surroundings, food, and water? It is suggested to "provide both old and new items simultaneously until the animal is using the new items reliably," and "after removing the old items, it is important to continue monitoring the animal to make sure he/she is eating and drinking sufficient amounts" (AALAS, 2011, p. 15). *How will you acclimate your animal to make sure it is not frightened?* This research study seeks to explore empathy in third-grade students; thus, we will have open-ended discussions and classroom meetings to discuss in depth how we can help the classroom pet become acclimated and take steps to prevent the pet from becoming frightened.

f. What will you use to clean the cage, food, and water dispensers? These items should be cleaned once a week via washing with detergent and water; items should be thoroughly rinsed and dried before replacing new bedding (AALAS, 2011). *How will you rinse these items to make sure the animal is not exposed to the cleaning agent?* The guinea pig will need to be taken out of the cage for cleaning; this is something that will need to be discussed with the classroom teacher and students. Perhaps the students could help hold the guinea pig while the cage is being cleaned.

g. What kind of bottle or bowl will you use for water? A large-sized bottle with sipper tube that securely attaches to the cage will be used; this bottle will need to be checked for debris and kept clean (once a week with the cage). *Who will be responsible for giving the animal clean water and how often?* Ideally, the classroom teacher will work out a

system so that the students will help care for the classroom pet. *A Classroom Pet Care Log has also been created to help keep track of this.*

h. Who will take care of the animal on weekends and holidays? Typically, children are eager to assist in caring for the pet, including taking turns of sharing the responsibility of caring for the pet over the weekend or holidays. This is something that will have to be discussed with the classroom teacher. If he/she does not feel comfortable sending the pet home with students, the researcher and her chair will be personally responsible for caring for this guinea pig over the weekends/holidays. **If going to a home, how will the animal be transported?** Animal would need to be transported cage and all via whatever vehicle the transporter was driving. **What kind of container will be used?** Guinea pig will be transported in its cage. **Can the animal escape?** No, there is a very low probability that the guinea pig could escape. **If the animal does not go home on weekends or holidays, who is responsible for the animal's care during that time?** The researcher and her chair will be personally responsible. **Is the room temperature appropriate to leave the animal there when school is out?** Yes, part of the health and safety regulations for public elementary school classrooms is to maintain proper ventilation, so it should not be a problem to regulate an appropriate temperature when school is out.

i. If the animal needs veterinary care, which veterinarian will you use? Elizabethton Veterinarian Clinic will be used in the event of an emergency. **Where will emergency contact information be posted?** Emergency contact information can be posted above or near the guinea pig's cage.

j. If the animal dies, how will you dispose of the body? In the event that the classroom pet dies, the pet will be buried in a legalized location (i.e., the veterinary clinic offers different options for this). ***How will you address grief issues?*** Part of this study is to explore empathy among the third-grade students, so in the event that the guinea pig dies, the researcher and classroom teacher will address this issue with the children and apply developmentally appropriate coping strategies. We will also discuss with the children if they would choose to have a memorial service or facilitate other ways to honor the pet and say goodbye.

5. Allergies

The last issue to consider is allergies: some students may develop allergies to the pet or bedding materials. Animal dander, particularly in guinea pigs, has been identified as a potential source of allergens. "Children can be exposed by directly handling the animals or by airborne particles" (AALAS, 2011, p. 5). In response to this issue, if on the Parental Permission Forms (consent forms for parents to allow their children to participate in this study) parents indicate that their child has an allergy, or if they do not want their child to be exposed to the classroom pet, then that child's classroom would not be eligible to participate in this research study.

Appendix D: Classroom Pet Care Log

Week 1 – Pre-test (November 1st)

Week 2 – Empathy lesson #1 on *Preparing for a Classroom Pet* (November 7th)

Date	Classroom Temperature	Food	Notes	Time	Initials
Thursday, November 14, 2019		2 pellets	Ms. Randa delivers the pet fish; Empathy Lesson #2 on *Maintaining & Caring for our Classroom Pet*.		
Friday, November 15th		3 pellets			

Week 3 – Transfer fish into new bowl and add Spring Water   Initials _____

Date	Classroom Temperature	Food	Notes	Time	Initials
Monday, November 18th		2 pellets			
Tuesday, November 19th		2 pellets			
Wednesday, November 20th		2 pellets			
Thursday, November 21st		2 pellets			
Friday, November 22nd		3 pellets			

Week 4 – Clean bowl and add new Spring Water   Initials _____

Date	Classroom Temperature	Food	Notes	Time	Initials
Monday, November 25th		2 pellets			
Tuesday, November 26th		2 pellets			
Wednesday, November 27th			What will our plan be for Thanksgiving break?		

Date	Classroom Temperature	Food	Notes	Time	Initials
Thursday, November 28th			What will our plan be for Thanksgiving break?		
Friday, November 29th			What will our plan be for Thanksgiving break?		
Saturday, November 30th			What will our plan be for Thanksgiving break?		
Sunday, December 1st			What will our plan be for Thanksgiving break?		

Week 5 – Clean bowl and add new Spring Water   Initials _____

Date	Classroom Temperature	Food	Notes	Time	Initials
Monday, December 2nd		2 pellets			
Tuesday, December 3rd		2 pellets			
Wednesday, December 4th		2 pellets			
Thursday, December 5th		2 pellets	Empathy lesson #3 with Ms. Randa from 1:10 – 1:45 pm.		
Friday, December 6th		3 pellets			

Week 6 – Clean bowl and add new Spring Water   Initials _____

Date	Classroom Temperature	Food	Notes	Time	Initials
Monday, December 9th		2 pellets			
Tuesday, December 10th		2 pellets			
Wednesday, December 11th		2 pellets			

Thursday, December 12th		2 pellets	Empathy lesson #4 with Ms. Randa from 1:10 – 1:45 pm.		
			End of our Study: We need to decide – will the class adopt the pet fish, or will we need to find him a forever home?		

Week 8 – re-administer post-test (22-item questionnaire) and conduct teacher interview.

Appendix E: Quantitative Results from Empathy Pre-Tests & Post-Tests

Student #	Pre Test Empathy Score	Post Test Empathy Score	Control Group Empathy Change	Pre Test Empathy Score	Post Test Empathy Score	Pet Only Empathy Change	Pre Test Empathy Score	Post Test Empathy Score	Lessons Only Empathy Change	Pre Test Empathy Score	Post Test Empathy Score	Pet & Lessons Empathy Change
1	12,22	6,22	8 y	8,22	11,22	8 y	11,22	11,22	8 y	8,22	13,22	8 y
	54.55%	27.27%	-27.27%	36.36%	50.00%	13.64%	50.00%	50.00%	0.00%	36.36%	59.09%	22.73%
2	15,22	15,22	9 y	13,22	13,22	9 y	18,22	20,22	8 y	14,22	12,22	8 y
	68.18%	68.18%	0.00%	59.09%	59.09%	0.00%	81.82%	90.91%	9.09%	63.64%	54.55%	-9.09%
3	13,22	13,22	8 y	16,22	17,22	8 y	19,22	21,22	8 y	20,22	19,22	8 y
	59.09%	59.09%	0.00%	72.73%	77.27%	4.55%	86.36%	95.45%	9.09%	90.91%	86.36%	-4.55%
4	13,22	10,22	9 y	13,22	18,22	8 y	18,22	18,22	8 y	11,22	13,22	8 y
	59.09%	45.45%	-13.64%	59.09%	81.82%	22.73%	81.82%	81.82%	0.00%	50.00%	59.09%	9.09%
5	16,22	14,22	9 y	14,22	14,22	9 y	14,22	14,22	8 y	12,22	12,22	8 y
	72.73%	63.64%	-9.09%	63.64%	63.64%	0.00%	63.64%	63.64%	0.00%	54.55%	54.55%	0.00%
6	15,22	19,22	8 y	8,22	10,22	9 y	17,22	18,22	9 y	19,22	19,22	8 y
	68.18%	86.36%	18.18%	36.36%	45.45%	9.09%	77.27%	81.82%	4.55%	86.36%	86.36%	0.00%
7	16,22	13,22	9 y	9,22	14,22	8 y	15,22	14,22	9 y	21,22	20,22	8 y
	72.73%	59.09%	-13.64%	40.91%	63.64%	22.73%	68.18%	63.64%	-4.55%	95.45%	90.91%	-4.55%
8	17,22	19,22	8 y	6,22	9,22	8 y	10,22	8,22	9 y	15,22	18,22	8 y
	77.27%	86.36%	9.09%	27.27%	40.91%	13.64%	45.45%	36.36%	-9.09%	68.18%	81.82%	13.64%
9	15,22	15,22	8 y	16,22	15,22	8 y	13,22	20,22	9 y	14,22	16,22	8 y
	68.18%	68.18%	0.00%	72.73%	68.18%	-4.55%	59.09%	90.91%	31.82%	63.64%	72.73%	9.09%
10	19,22	18,22	10 y	16,22	18,22	8 y	13,22	14,22	8 y	19,22	16,22	8 y
	86.36%	81.82%	-4.55%	72.73%	81.82%	9.09%	59.09%	63.64%	4.55%	86.36%	72.73%	-13.64%
11	17,22	18,22	8 y							16,22	17,22	8 y
	77.27%	81.82%	4.55%							72.73%	77.27%	4.55%
12	19,22	21,22	8 y							9,22	13.22	8 y
	86.36%	95.45%	9.09%							40.91%	59.09%	18.18%
ALL	70.83%	68.56%	-2.27%	54.09%	63.18%	9.09%	67.27%	71.82%	4.55%	67.42%	71.21%	3.79%
M	65.45%	55.45%	-10.00%	53.41%	63.64%	10.23%	61.69%	66.23%	4.55%	68.18%	74.24%	6.06%
F	74.68%	77.92%	3.25%	54.55%	62.88%	8.33%	80.30%	84.85%	4.55%	66.67%	68.18%	1.52%
8 y	70.13%	72.08%	1.95%	54.55%	66.23%	11.69%	70.45%	74.24%	3.79%	67.42%	71.21%	3.79%
9 y	68.18%	59.09%	-9.09%	53.03%	56.06%	3.03%	62.50%	68.18%	5.68%	NA	NA	NA
10 y	86.36%	81.82%	-4.55%	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pre Test Empathy Score	Post Test Empathy Score	Control Group Empathy Change	Pre Test Empathy Score	Post Test Empathy Score	Pet Only Empathy Change	Pre Test Empathy Score	Post Test Empathy Score	Lessons Only Empathy Change	Pre Test Empathy Score	Post Test Empathy Score	Pet & Lessons Empathy Change

Appendix F: Anecdotal Field Notes from Student Work Samples

Lessons Only Group, Empathy Lesson 1

Date, Time, Location, and Group	Researcher's Questions/ Provocations	Children's Direct Quotes/Responses	Researcher's Inferences
November 4, 2019 1:10 – 1:45 pm Guidance Counselor's room Lessons Only Group – Empathy Lesson #1	What does empathy mean?	It has to do with feelings. To control your feelings.	*It seems like they know empathy is connected to feelings, but they do not have a clear concept of the definition.*
	Empathy is when you put yourself in another person's shoes.	*Children are asked to draw a picture of their favorite shoes in their empathy journals.*	*Children are engaged in this activity; some even take off their shoes to trace it into their journals.*
	Read Aloud Experience: Coat of Many Colors *(Parton, 1995)*	My grandma really likes the music of Dolly Parton, but she's passed away. I just went to Dollywood, and they like, had all of her music playing. Sometimes she comes to Dollywood.	*I wanted to use this particular story and the activity with drawing shoes to teach the basic definition of empathy—for children to understand that it's about putting yourself in someone else's shoes.* *The children have background or prior knowledge about Dolly Parton; they are interested in learning more about her.*
	Let's look at the first page ("Back through the years, I go wondering once	Yes, because of the mountains. Sometimes the mountains look lonely,	*I wanted children to notice that the scenery depicted in the book's*

	again, back to the seasons of my youth…"). Does this look like where we live?	or make you feel lonely, so that looks like where we live.	*illustrations did look very similar to where we live. Can we connect to Dolly's perspective, or can we put ourselves in Dolly's shoes?*
	In the story, it says, "So with patches on my britches, and holes in both my shoes, and my coat of many colors, I hurried off to school…" What do you think it was like for Dolly to grow up with holes in both her shoes – what if you were in her shoes?		
	Why was Dolly's mother going to make her the coat?	So she could stay warm. They were poor, so they didn't have any money to buy a coat.	*Can the children put themselves in Dolly's shoes?*
	Do you have to have money to be rich? Do, even though you have no money, you still have to have "stuff" to be rich?	No, because you could make stuff or have a business, or like just make your own stuff. No, love, you can be rich on love!	
	Did you ever have anything that was so special to you, just like Dolly's coat was special to her?	A blanket my nana made me with my name embroidered on it. A purse my grandpa brought back for me from Saudi Arabia. My grandpa's sailor hat – it was his most prized possession. My grandpa's boots and helmet and flag	*All children can come up with a special example; I try to relate this question to show them that we can have empathy for one another and understand why these items are so special to our classmates.*

| | | from where he came back from the war…he died.

A doll that my aunt bought for me with a dress, but she passed away. | |
| | What if we didn't understand why those things were special to you?

What if we laughed and made fun of those things like Dolly's friends made fun of her coat?

How would that make you feel? | No!

We wouldn't like that at all…

That would make us really sad… | *The children seem to have an understanding of perspective; they believe it is wrong to laugh, bully, or make fun of friends in this context.* |

Lessons Only Group, Empathy Lesson 2

Date, Time, Location, and Group	Researcher's Questions/ Provocations	Children's Direct Quotes/Responses	Researcher's Inferences
November 11, 2019 1:10 – 1:45 pm Guidance Counselor's room Lessons Only Group – Empathy Lesson #2	Do we remember what vocabulary word we learned last week? What does empathy mean? Did anyone take my challenge and show empathy this week?	Empathy! Putting yourself in someone's shoes. I was holding the door open for my friends. I gave away two of my Pokémon cards to make a friend happy. I was standing up for someone who's being bullied.	*This shows evidence that the students retained and remembered not only the term empathy, but also the definition after 1 week.* *Can they connect the term "bullied" back to last week's lessons from* Coat of Many Colors, *where Parton was bullied for wearing a home-made coat?*

	Who was being bullied from our story last week?	Dolly Parton! It made her sad because her mom had made the coat.	*This shows evidence that the students retained important information from last week's lesson…*
	What does empathy mean to you?	Thinking about their home life…that might compare to their attitude. I saw a commercial of a little girl who was hungry…she had no food. *One child started talking about his pet, so the conversation naturally turned to pets…many students were talking about empathy in terms of how they felt when their pets passed away.*	*I thought this provided evidence of deep and reflective thinking.* *Was this example because we talked about being rich or poor last week and Dolly's family having no money?*
	I reminded students of a question from their pre-test (i.e., "It makes me upset when I see an animal being hurt"). Do you think pets can help us learn empathy?	They're so nice to us. Maybe? Yes…if you're, like, sad, a dog can make you feel better. Yes…they cheer you up! A pet can't, like, live by itself…you have to take care of it and you should do the same for your friends. A pet can train you to take care of your friends. Yes…pets are like people…they help you	*What a reflective response and excellent example of how pets teach us empathy…* *These children are extremely sophisticated in their thinking and showing strong*

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		understand others' emotions. Yes, I have a dog at home…whenever my mom's in a bad mood, he makes her feel better.	*evidence of their ability to think about empathy and the emotions of others.*
	Children were asked to draw a picture in their empathy journals: Can you draw what empathy means to you?	*Here are the students' very own words from their empathy journals describing their pictures:* I want to see my dog, and that always cheers me up…that and my brother. Empathy…it makes me think of when my family has fun. When I play basketball with my friend and he misses a shot, I say, "Nice try!" I forgot about my dog Oreo, who's up in Heaven…about my family – my dad was in the army, so it [empathy] makes me think about that. He's my pet – Moe! Whenever I look at people's shoes, it makes me think of their personalities. It makes me think of their home life and how their parents treat them.	*Children remembered and retained information from last week as they recalled, defined, and provided rich examples of "empathy." Interesting that without even being prompted, the children automatically and naturally associate empathy to the feeling or connection they have with their pets. This group is not even receiving a class pet, but they are still making those connections…* *This little girl, M, connected her drawing this week back to last week's illustration of her favorite shoes…I love that she's thinking of the definition of empathy and connecting that to her drawings of shoes.*

| | | I'm going to draw them [her pet dogs] saving a human! My dogs are saver dogs. My dog kept on saving me.

It [empathy] just makes me think about people who don't have a dog, because their dog might have run away or died. We trust our neighbors if our dogs run away, but some people can't trust their neighbors. | *Somehow, even though this is the LESSONS ONLY GROUP, the children's experiences with pets still played a critical role in how they thought about social-emotional development. When the children were asked to "draw" empathy, many of the students' illustrations had connections to their pets. Interesting!* |

Lessons Only Group, Empathy Lesson 3

Date, Time, Location, and Group	Researcher's Questions/ Provocations	Children's Direct Quotes/Responses	Researcher's Inferences
November 25, 2019 1:10 – 1:45 pm Guidance Counselor's room Lessons Only Group – Empathy Lesson #3	Do you remember what special word we've been working with? Can you think in your minds of a way to describe or define empathy?	Empathy. Think of how somebody else lives. Put yourself in someone else's shoes. It's their point of view!	*These responses provide evidence that the students are learning and retaining information learned from each lesson on empathy.*
	Because the conversation had shifted to pets and family the last lesson (and because their friends in the Pet Only and Pet + Lessons groups had recently received pet fish in their classrooms), I decided to use the		*I explained to the third graders that their thinking the movie was sad was an example of how we feel empathy for others; they are able to put themselves in Nemo's place and think about the story from Nemo's point of*

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	read aloud story Finding Nemo *to help teach empathy and perspective to the children.* Did you like the movie [*Finding Nemo]*? Why did you think it was sad?	It's sad. It's sad how he gets separated from his parents.	*view. They feel sadness because they relate to the character.*
	How do you think Nemo felt?	Scared. Worried.	
	When you think from your parents' perspectives, can you understand why they may make certain decisions to keep you safe?		*This helped the children connect what happened in the story—where Nemo's father Marlin felt great fear and panic when he could not find Nemo—to how their parents must feel in real life.*
	Children were asked to think about empathy and draw a scene from the story illustrating a character's point of view.	*Children thought about and drew a scene from the story illustrating a character's point of view. Below are their direct quotes from their empathy journals:* Empathy…how somebody feels? I think he feels startled or scared because he's away from his father, and he doesn't know if there's any mean people. He was scared and worried – because he	*Sophisticated concept of empathy here. Clearly, these quote provide strong evidence of the third graders' abilities to think about empathy from another person's point of view or perspective; they are able to put*

		was away from his father, and that was his only family member. Nemo – he was scared.	*themselves into the characters' places and think about their emotions and what they must be feeling.*
		I think Nemo was very sad and then happy to see his dad! You feel something, but it's not about you, it's about other people, but you can still feel sad.	
		How he got taken – how sad he feels when he got taken in the tank. Marlin and Dory were freaking out – because they were trying to find Nemo.	
		Empathy means being nice and not hurt them…Nemo, sad.	
		Empathy: the definition is feelings…Nemo, he's happy because he's gonna have brothers and sisters.	
		Empathy means to put yourself in someone's place…this makes me think of how he feels, Nemo and his dad.	

Lessons Only Group, Empathy Lesson 4

Date, Time, Location, and Group	Researcher's Questions/ Provocations	Children's Direct Quotes/Responses	Researcher's Inferences
December 2, 2019 1:10 – 1:45 pm	*Last week, we read and discussed the story Finding Nemo;*	It's empathy because he [Marlin] had	*As a treat for the third graders, I had brought in some*

Guidance Counselor's room Lessons Only Group – Empathy Lesson #4	*this week, we followed up with the sequel,* Finding Dory. Have you ever been separated from your parents? Could you have empathy and imagine how Dory must be feeling in our story?	experienced the same thing [as Dory]. Nemo had lost his family, and it's sad because his dad and he was little and alone… It's sad, because parents are lost. I remember this one time, it wasn't with my parents, but with my grandfather, and I was going to the bathroom – well, I wasn't really going to the bathroom, I was going to throw away my gum – but I was gone for a really long time, and it scared or worried my grandfather, because he was like, "It shouldn't be taking this long, where is she?" I was at a festival and lost my mom…it took a long time to find her, I was very scared and nobody helped me, not even a cop! Well I was at the flea market, and my mom and dad were like in another little story, then I got separated from them, and there was a lot of running around and trying to find each other. Our mama takes us to spend $20 each if we help her clean the	*individually packaged Goldfish snack crackers, and M instantly noticed that last week, we had read a story about the fish, and now we had the Goldfish snacks. I love that she's made this connection to last week's lesson!* *All students can empathize with both Dory and Nemo, remembering a specific time or event when they were separated from their families.*

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		house, so we went to Walmart, and my brother got lost form her… I actually got lost at Disney once.	
	You know, each person has talked about things that happened to them and how they felt, but how do you think your parents felt when you were separated from them? Can you have some empathy and try to think of one word to describe how your parents felt?	Worried Frightened Traumatized I would say a little bit worried. Angry I would say everyone's words.	*This shows evidence of the children's abilities to empathize and think from the perspectives of their parents.*
	Can you think about empathy in the story? Can you illustrate an example of empathy from the story in your empathy journals?	The story was good, but she was sad because she lost her parents. The both of them are trying to find her parents, and the both of them are sad. I remember when they went to the giant tank, they found octopus, and he told her that her parents were somewhere else…that made her feel surprised…and annoyed. I remember that she was super scared, and it was even worse because she had short-term memory loss!	*These words from the students' empathy journals provide evidence of their ability to think about the different points of view and emotions felt by the characters.*

| | | I think that they were both sad, and Dory was getting sad and stressed, and she had short-term memory loss, and she lost her family when she was a baby…and Marlin was upset because he lost his only family, his son. They both got lost…he felt very sad. "Where is my son? OMG where is my mom and dad?!"

Dory got taken…it made her feel sad. And mad.

How he feels when they say no to help them, because in the movie, they didn't always say yes to help them, so Dory says, "Hi, can you help me?"

Dory felt bad because she lost her parents.

Marlin felt bad for Dory because she was separated from her parents and didn't even remember. | |

Pet + Lessons Group, Empathy Lesson 1

Date, Time, Location, and Group	Researcher's Questions/ Provocations	Children's Direct Quotes/Responses	Researcher's Inferences
November 7, 2019 1:10 – 1:45 pm	*Beginning the project: Assessing students' prior*	We can play with the fish and look at it. We could put the fish in the center of our	*This tells me the student associates pets with happiness; he's thinking about where in the*

Guidance Counselor's room Pet + Lessons Group Empathy Lesson #1	*background knowledge.* What do we know about taking care of fish? What can we do to make the fish feel at home?	classroom so people will be happy and watch it while they think. The fish will need protection, so it feels at home. Tank, pebbles, plants, decorations, maybe a house… If it's scared, he can go inside his house…he might be scared because he doesn't know us.	*classroom environment is best for the fish.* *Already, the children are thinking from the fish's perspective, showing evidence of empathy.*
	How will your classroom change once we get the pet fish?	Responsibility – we'll have to take care of it! It'll change because everyone will have a job, and people can't be careless. We can't let people who are careless take care of our fish! It won't change for me because I'm used to having fish – my aunt has two fish.	*This tells me that the children are excited about and invested in caring for the pet fish. They are already thinking about prosocial behaviors like responsibility, and they feel strongly about people not being careless.*
	What sort of jobs will we need to do to take care of the fish?	Feed the fish…our teacher uses popsicle sticks to call on us, maybe she could use those to let us take turns feeding the fish? Pick a stick? Keep the tank clean.	*Students' responses show that even though the pet is just a fish (versus the cuddly guinea pig), the third graders are taking this very seriously, already talking about responsibility and the different jobs they will need to perform to ensure*

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			quality care for their pet fish.
	Children were asked to draw in their empathy journals a picture of how we would set up the pet fish in their classroom. What does aggression mean? Are you ever aggressive with your friends? Do you know what the opposite of aggression is? It's empathy – empathy means we are able to think about things from another person's perspective or point of view.	We don't want an aggressive fish…we want a kind fish! Some fish are aggressive, like people, and they eat the fish, and then they die. It means you're mad…your anger takes over. Yes… Three third graders were bullying my friend, and lots of people gathered to stand up for him.	*Perfect connection to the antisocial behaviors discussed in Chapter 2; the students came up with this connection without any prompting, which tells me they are thinking about the traits they would find ideal in a classroom pet and connecting that behavior back to people.*
	Let's switch our drawings – now, I want you to draw a picture from the fish's point of view – how do you think the fish will feel when he comes to live in your classroom?	He will feel excited and happy to be away from the dangers of the ocean. Feeling excited and a little scared becase all of the new people and you will need to give him extra space… Clean the tank…very careful with the fish, very delicate. Scoop	*Students are super excited to welcome a pet fish into their classroom! What we thought would be a limitation really had no effect on the level of excitement and engagement of the children. This should be useful information for teachers: even if you have allergies, a*

		the fish out quickly so they don't die… I would feed it and have it a nice little house.	tight budget, or lots of chaos in the classroom, you can still have something as simple as a pet fish to prompt and provoke these thoughts and empathetic emotions from the children.

Pet + Lessons Group, Empathy Lesson 2

Date, Time, Location, and Group	Researcher's Questions/ Provocations	Children's Direct Quotes/Responses	Researcher's Inferences
November 14, 2019 1:10 – 1:45 pm Guidance Counselor's room Pet + Lessons Group Empathy Lesson #2	*Continuing the project: Introducing the pet fish and teaching children how to care for the fish in their classroom* *Students made notes in their empathy journals and were given a Classroom Pet Care Log to help them keep track of the care and maintenance of their pet fish.* *Students signed a consent form, or contract, to become official pet fish parents.* *Students voted on names; they decided to name their pet male Betta fish Pippy-Pip Squeak the Dark Red*	How can we interact with the fish?! Like, how do we talk to it?! Can we get close to it and tap on the tank?! *The rest of this lesson was spent having children learn about the maintenance procedures (cleaning, feeding, and handling) of the pet fish. Students were able to spend ample time bonding and interacting with the pet fish and setting up his "home" in their classroom.*	*These questions from K, who is extremely excited about the pet fish, provide evidence that the students are already thinking of ways to interact with and bond with their new class pet. This is so positive, because we were all worried that a fish might not provide the same level of excitement and engagement from the students, but they were so happy and eager to care for the fish.*

			Betta Fish, or "Pip" for short.	

Pet + Lessons Group, Empathy Lesson 3

Date, Time, Location, and Group	Researcher's Questions/ Provocations	Children's Direct Quotes/Responses	Researcher's Inferences
December 5, 2019 1:10 – 1:45 pm Guidance Counselor's room Pet + Lessons Group Empathy Lesson #3		Pippy grew over Thanksgiving! So we changed from giving him 2 pellets a day to 3. Do you know what? I got to feed Pippy before we went on break!	
	Do you remember what special word Pippy is helping us learn?	Empathy.	
	How do you think taking care of Pippy has helped you learn empathy?	You feed him and watch him…if we didn't feed him, he would die. We needed to learn about what to do…every week we need to clean the tank. It helped us learn empathy because you might think he doesn't look hungry, but he actually is, and we have to learn decision-making.	
	What decisions do you have to make?	Make decisions, like how many pellets, what time we're going to feed him,	

| | | consequences, responsibility, keeping his bowl clean, and if we overfeed him, he will die.

He helps us learn empathy because he makes us feel better…if you're sad you can talk to him, and it makes you feel better, and you can talk to him about problems.

It's amazing to have a fish…it's special, because some of us, only A and E are the only ones who've ever had a class pet, so it's fun for the other people who have never had a class pet to take care of. | |
| | *Some children had a pet lizard in second grade.*

How are taking care of a lizard and taking care of a fish alike and different? | You can hold them.

They ate insects that was really gross to see.

They needed a special light to keep them warm.

You had to clean up after them.

With a fish, you change the water, clean the tank, and keep him fed.

Gonna have to clean up! | *Interesting to me that they're focusing on the clean up more than the feeding, when they are move actively involved with feeding the pets themselves than they are with cleaning a tank (typically the teacher or adult's responsibility).* |

	Now we are going to read a story about a fish named Nemo…	L said she looked at the faces in the storybook illustrations to "read emotions." She explained you could tell how the characters were feeling by looking at their faces; she did this throughout the entire story.	*L is able to show her empathy when she thinks about how the characters were feeling in each different story scene.*
	Empathy means you're able to understand the feelings of others and put yourselves in another's place.		
	As we read the story, think about as many examples of empathy from the different characters you can think of.	How you think someone else feels…lots of emotions, like worried, scared, happy, or furious.	*Evidence of students thinking about different types of emotions, and students explain their thinking.*
		What does furious mean?	
		A type of anger.	
		Nemo has a lot of emotions!	
		This dude was greedy…that person, that shark, he is greedy, and they like to eat innocent animals. A shark feels good because sharks are greedy and like to eat innocent creatures.	*This child is thinking from the shark's point of view; although he does not agree with eating innocent creatures, he knows that is acceptable from a shark's perspective.*
		Happy: when Nemo was happy for the first day of school.	*All of these responses provide evidence of the students' abilities to think from different characters' points of view.*
		Worried: Marlin was scared because they were going somewhere dangerous.	*The third graders talk about lots of*

		Excited: when Nemo and Dory found each other!	*different emotions that were experienced by the characters throughout the story.*
		Happy, by his facial expression, I can tell he is happy.	*It shows evidence of their empathy when they talk about being "sad to hear," because they are able to put themselves into that character's position and imagine what the characters are going through.*
		Excited was – he was excited when he found his dad at the end of the story.	
		Scared reminds me of empathy because Nemo was scared when the dentist girl who killed fish came to get him.	
		So, remember when at the end of the story, Nemo was happy to see his dad, because he hadn't seen him the whole story? And confused was when he met Dory, and he couldn't find his son. Angry, shark.	*This lesson also meets literacy standards by having the students think from characters' or narrator's points of view.*
		Worried, scared, excited, angry, furious, mad, brave, confused, happy…if you see it coming, you would scream, if you didn't, it would be a scary scare. Fish are friends, not food – he is happy for his friends and protecting the fish.	

| | | His dad was furious because he didn't want him hurt.

The dad was worried about his son for the first day of school. He had to go to school and be angry at his son instead of worried like he was at the beginning, Dad was angry because Dory got dared to go touch the boat even though he wasn't supposed to.

He was excited at the end when he found his dad!

The little fish was happy when he saw his dad.

It's Nemo when he's going to touch the boat…Marlin's scared. Nemo's probably scared because he's about to get grabbed, and the scuba diver's going to take him.

He is feeling scared and worried because he's afraid the shark will eat him. It makes me sad to hear. | |

Pet + Lessons, Empathy Lesson 4

Date, Time, Location, and Group	Researcher's Questions/	Children's Direct Quotes/Responses	Researcher's Inferences

	Provocations		
December 12, 2019 1:10 – 1:45 pm Guidance Counselor's room Pet + Lessons Group Empathy Lesson #4	*Reflecting on the project: What have we learned about empathy?* What have we learned about empathy? How can we learn about empathy using pets? *It was interesting to me that when I specifically asked, "What have we learned about empathy?" that they immediately thought of responsibility and taking care of the pet fish. We know that both empathy and responsibility are components of pro-social behaviors, and it would appear that taking care of the pet fish during this study helped them to learn about empathy in regards to having to take care of something else or being responsible for something/someone other than one's self.*	Responsibility. How to take care of it [the pet fish]. We can learn to read emotions, like cats purr when they're happy. Dogs growl when they're mad. They whimper when they're sad. You can read emotions on your pets or animals. Can you read emotions on your friends? Some kids might not want friends because they already have someone they want to play with… But most kids want friends.	*I was impressed that the children brought up the point that we can "read emotions" from our pets or animals, and then use that skill to "read emotions" from our friends. Have the empathy lessons helped the third graders to think more about reading their friends' emotions, or at least become more aware and less egocentric?*

Teacher Interview, Control Group

Interview questions	Teacher responses
Could you please identify which group you were in?	I was in the control group with no pet, no intervention.
Could you please tell me a little bit about the social-emotional climate of your classroom?	We have all different levels of social-emotional status for our kiddos.
	Socially, not everyone is where they need to be on the third-grade level.
	We have some kiddos who are below grade level…but it also affects their ability socially, so they haven't had those interactions and those experiences that other children may have had.
	I kind of have all levels in that sense, and because of some of the trauma that my kids have gone through…we have some emotional instability as well. So, I would say we have the happiest of kiddos…to the saddest of kiddos, and that affects them both socially and emotionally.
What kind of teaching approaches do you use?	A lot of love…I kind of treat them like they're my own kids…
When I visited for the pre-test, it seems like your classroom is really set up for that.	I feel like we have a good environment…I feel like when we're here, we're a family.
	We treat each other with respect, if we're not getting along with someone, and we don't know how to work through that conflict, we just kind of stay away from that person 'til we learn how to work through that conflict, so we create that culture of "we're family."
	Would we treat our family members this way? Even if some of their family members at home threat them in a negative way, it's not allowed here, and it will not be tolerated. And they're expected to treat others the way they would like to be treated.
Have you ever noticed any instances of anti-social behaviors in your classroom?	I have a friend who because of her lack of experience in her own personal belongings is very jealous of what other kiddos have.
	She wants to make friends, but sometimes she goes about it the wrong way.

	She tries to coerce them into being her friend in a negative way, so it's dishonest behavior. I don't know that I would say bullying because I don't know it's to that level, but she knows right from wrong, but she is craving attention, and I have a few that are like that. Not knowing how to handle those feelings and where to go from there and make friends. That prohibits her socially and emotionally from making connections.
Do you think they could benefit from being around a classroom pet?	I think they could because a classroom pet is not going to have anything negative to say, and all they're going to feel are those warm, fuzzy feelings about an experience that they might not have a chance to partake in outside of the classroom. They may not have an opportunity to be able to provide for an animal or care for an animal, so I really think that would help them to see that they're caring for something that's living and allowing it to be able to thrive and grow, and maybe they would see that they could do the same thing if they were handled in the same way.
What is your opinion about having a classroom pet, or suggestions that you would give other teachers thinking about doing a pet?	I'm the one that was allergic to the guinea pig…I love the idea of a classroom pet, because, again, we're a family, we work together as a teach, and I think it would be teamwork to care for a pet. I love the idea if we could have one, like a fish, that would suit everyone, because I had some kiddos that were allergic as well and were unable to do that, but just so they can see the teamwork and how they can work together on their level of responsibility… Caring for something else could prepare them later on in life for taking care of themselves in addition to if they have their own families one day. I know it's a very small scale about a classroom pet, but you've got to keep it living, so that's the same thing if they have children one day. I love the benefit of it – just trying to figure out the maintenance of it and all of that and what all the kids can do or can't do. I love the idea, and I would recommend it for anybody. I've heard great things from Mrs. H with the classroom fish, it's great!
In third grade, what is your approach for project work?	It's starting a project from start to finish, and following it all the way through and investigating and researching and making sure you have what you need to be successful, which kind of relates itself to a classroom pet!

	So from the time you get it, to the time it dies, it's that follow-through of taking care of your responsibilities.
With the students taking the pre-test and post-test, did you notice them talking to you about any of the questions or words?	When they were taking it some of them were asking if a certain situation would mean a relationship to the question they were being asked, or definition of explaining a word. I know a few of them had questions if it pertained to them some of the time or all of the time, how they needed to answer… I think they were really thinking about the questions and answering honestly.
What is your opinion about teaching empathy, or do you have ideas for other teachers who are trying to teach empathy?	I think it's an important skill in life. We don't want them to just be sympathetic. We want them to, even though they truly can't understand what someone is going through, to kind of help feel and understand their pain. Be understanding and compassionate about that, even though they may not be able to relate. That's an important life skill, not just something that we can teach them in the classroom. I feel like empathy could go a long way in life. It's one of those that could help build their character and create better individuals who will be caring for themselves one day and taking care of others.

Teacher Interview, Pet Only

Interview questions	Teacher responses
Could you talk about the process of how you got your classroom pet?	I always try to have a class pet, it's just always been something that I've done…I've had a guinea pig one year…
Can you talk about the challenge of having a guinea pig?	It's more of a challenge of cleaning it; they require a lot more attention than a fish. Like a fish, I can just drop in and drop some food in, and the fish doesn't miss me.

	But a guinea pig needs that love and attention, and they're sweet, but…
	We had parents sign up to take the guinea pig home over the weekend, and then you worry about – will it be okay?
	It was a lot more work than a fish.
Can you notice a difference in how the children responded to one over the other?	No.
	Both of our fish died, unfortunately.
	But the kids would still gather around, and they have always gathered around the aquarium and would look at the fish.
	They looked forward to being the one that got to feed the fish that week, so they seem to enjoy it just as much.
	The girls would make little clothes for the guinea pig and would get it out some, but they seem to enjoy the fish just as much as the pig.
Were the children involved with bringing the pet fish into their classroom?	It was set up when they came in.
	But we voted on names, so they were able to name them.
	Then they were responsible for keeping them fed through the week, and the cleaning I was afraid to put anybody in charge of that, so I did all the cleaning of the tank.
Could you please tell me a little bit about the social-emotional climate of your classroom?	We have several students in my class that have some emotional issues.
	And have difficulties sometimes with simple transitions and any kind of changes in schedule.
	Sometimes it's just the weather or whatever, and those students in here who don't struggle with that are very perceptive of what's going on with those other kids and are very nurturing and accepting of those other students who do have struggles.
	There are three that really have those kind of emotional—their emotions are up and down and all over the place.
	It's amazing to watch the compassion of students and how they nurture each other; it's just amazing to watch 8-year-olds care about each other and be accepting of each other despite some differences.
Did you have a part in creating that, or how do you think students learned to behave that way	I try to pull empathy into my class.
	We talk about showing kindness.

toward one another?	We donated food to the animal shelter, and we provided a Thanksgiving meal to somebody through Good Samaritan. We've been trying to talk all year about how to be kind to each other, but some of these kids are just innately kind. Some people just come into life with that ability…but I do try to show kindness and to teach kids how kindness is important.
Have you noticed any instances of anti-social behaviors with the children?	Yes, I have three kids that really struggle emotionally.
Can you talk about how you handle those situations?	It varies…you have to look at the situation, what's going on, what motivated it and figure out how to help that child deal with it. We have a spot if they just need 5 minutes to go and sit; we have some paper and markers so they can draw, and they can take a break. We have one student that sometimes just needs to leave and go walk in the hallway and take a break. It takes a minute of getting down and talking to them and looking at them, and I know one kid doesn't get told that he's loved… And sometimes all he needs is for me just to hold him and say, "I love you, always and no matter what." It depends on what's going on, if there was a motivation for the tantrum. I was a social worker in my past life; I assess what's going on, and I handle the situation from that point, from what I see is going on.
Do you think that having the pet fish helps teach empathy?	I do. And it helps with responsibility, too. Caring for other things, I really wish our school would get a dog or a cat that would trot around the school because I think—we used to have Golden Retrievers that would come in and read with the kids, and it's special.
After participating in this study, what is your opinion about having a classroom pet, and what suggestions	I think it's important. It teaches kids to care and to think about other beings, whether it's a fish, whether it's a guinea pig…

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would you give other teachers who are thinking about it?	I think pets are important. I grew up with pets as a child; I just think having those creatures who love you and need you is a very important part of being a human and learning to take care of other people.
Did you ever notice those children you talked about gravitating towards the pet fish?	The one that I talked about that was especially emotional, he would. Sometimes he would just go over and watch the fish swim back and forth. That could help soothe some of the emotions that were going on in him.

Teacher Interview, Lessons Only

Interview questions	***Teacher responses***
Could you please tell me a little bit about the social-emotional climate of your classroom?	We have an interesting group of kids this year. We have several kids that are very emotional, we have quite a few kids that have a lot going on in their home life, so it's hard to differentiate between what's school-related and what's home-related.
Are there any instances of aggression or temper-tantrums?	Both. We have several that have medical diagnosis, but we have one student who melts down, beats his head…then we have another who does the same thing, but they both have issues at home as well.
What kind of approaches do you use with them?	At this point in the year, we know what it's stemming from. We're getting to the point now to where we know the kids, but then you can also tell when it's sincere – they're having an emotional moment, and you do your best to comfort them. We've got so much in place between Frontier Health and RTIB and our school counselor that usually we can get somebody up here pretty quick to take them one-on-one.
Have you noticed any difference since they've been having the empathy lessons?	There were several students that went like out on the playground: if somebody got hurt, everybody running up to them and really trying to be supportive, and I did notice several instances like that.
After participating in this study, do you have an opinion on having a pet in the classroom?	My problem with a classroom pet is I just don't…I'm here from 7 am until 6 pm every single day, and having a pet would be another good hour a week of cleaning cages or tanks or whatever… And then the money, so that was my whole thing.

	I'm the science teacher; I wasn't looking at the emotional, social aspect of it, I was looking at it from the scientific aspect of it, trying to meet our standards.
Do you think finding a pet with low maintenance could be positive?	I'm all about having a classroom pet, it's the added work, and these kids are not old enough to put them in charge of cleaning out a glass tank—it's just not going to happen.
Do you see any room for extending the lessons we've been doing the last several weeks?	I'm sure there would always be instances to facilitate the conversation… If there's a conflict between two kids… I'm not 100% sure what Ms. P does when she gets them, the problem is they don't go to Guidance but once a month now. They have been going a lot [once a week] because of you, but typically they only go to Guidance once a month. If it was something school-wide where it could be built upon year after year, that would be a whole different ballgame, but I don't think once a week is long enough, and I don't know how much would be long enough…half a year maybe? A year? It would take a long term. They're all dealing with so many different things and so many different medical diagnoses and personalities…it's just a hard, emotional group.

Teacher Interview, Pet + Lessons

Interview questions	*Teacher responses*
Please identify which classroom you were in.	The classroom with the fish and the empathy lessons.
Could you please tell me a little bit about the social-emotional climate of your classroom?	I have a lot of emotional students…a lot of anxiety, a lot of need for love and affection—not necessarily receiving that in other places, but they're not always in tune with what those emotions are or what they mean or how to behave in order to deal with what they're actually seeking for. When they're anxious, a lot of my kids are not in tune to what that means, and they tend to shut down or behave a little more negatively because of that anxiety. If they are looking for attention, they tend to seek out the negative attention versus the positive attention, because they just aren't in tune with how to appropriately cope with that.

	We're working on the social-emotional aspect, even outside of the fish!
Before the study, did you notice many instances of anti-social behaviors?	Some, yes. I have a couple of kids that before the study, they were not very social. Or they maybe have one or two people that they'd be social with. And I've noticed those kids actually branching out more, some kids that would either throw fits or just shut down, and I've seen more handling those intense emotions in a better way.
During this study, have you noticed any changes to your classroom climate?	More responsibility, more mindfulness of their actions and how that can affect—whether it's themselves or the whole class, or just another classmate besides them. They have a lot more investment in making good choices and maintaining positive and acceptable behavior. Almost because it's like there's something on the line.
Could you talk a little bit about how you decided upon the care and maintenance of the pet fish?	I have a bucket of names, and each morning I pick one student's name out of the bucket, and I watch that student through the day. I call them my 'Secret Student,' and I remind them that I'm watching my Secret Student, and I'll praise them if I see them doing something that maybe some other students aren't doing, or I'll call out if there's a group of kids that are talking, and I'll say, 'Oh boy…I see my Secret Student talking, that's really upsetting, I hope that they fix their actions and their choices…' If they succeed at the end of the day, then they get to care for our fish, and if they don't succeed then I don't announce who it was, but I just say some things that we need to work on in order to succeed for the next day, and then I feed the fish in their place.
Have you noticed how the children have responded to some of those empathy lessons?	Yes, I have… I have noticed the kids have been more gentle with each other, more understanding of each other. There's just been more of an awareness. It's like that saying of "you never know what somebody else is going through," so I feel like my kids have that understanding of, "I don't know what's going on in so-and-so's life, and they might be acting crazy, but I'm not going to call them out for it or be rude to them or make it worse; I'm just going to try to be a kind presence."
After participating in the study, what's your opinion on having a classroom pet, or what suggestions would	I have enjoyed it. I had a classroom pet my first year teaching, and the kids kind of had to work for it in order to receive it, so I think that there has to be more;

you offer other teachers who are thinking about getting a pet?	there has to be a deeper purpose to having the classroom pet than just for the sake of having it.
	Whether it's tying it to behavior like I do with the Secret Student and being able to share in the responsibility for caring for him, based on our actions and the choices that we make, or if it's tied to social-emotional learning or some other topic where they learn from it rather than just having it sit there.
	I think that's a really important aspect because it helps give them that buy-in; it gives them that responsibility.
	It holds them accountable, knowing that he's part of our classroom family now!
	And the kids really feel that; they know it's obviously not just like having a dog, but in a way, it's kind of like having a dog where you have to keep up that responsibility and your end of the bargain.
Do you see any room for further extension now that the study is over?	Absolutely.
	I got an email about professional developments that are being offered through our system, and there was a social-emotional website called Every Monday Matters, that has free social-emotional lessons for each day, and I can't attend that workshop, but I already looked up that website and want to continue tying that in because these kids have such rocky lives that if they don't learn how to cope with their stuff, but also how to handle other stuff, it's going to be a really hard lesson for them to learn as they continue to grow, and continue to experience some really hard things at such young ages.
	That's something that I really want to pull in in third quarter and just make time for that

Teacher Interview, Guidance Counselor

Interview questions	***Teacher responses***
Could you tell me a little bit about the social emotional climate in your classroom for Guidance?	I try really hard to make it comfortable for the children, to speak honestly about how they feel, and it's different for every grade, what the issues are.
	Starting with kindergarten, it's the more basic skills – what to do if somebody makes you upset or hurts your feelings…when it's appropriate to tell a teacher and when it's not.

	As it moves up to fourth grade, it's more like peer-conflict-type stuff, but it's more peer-pressure, clicks, working on stuff like that. It's more social-based, the emotional part stems from that.
Before this study, did you notice any instances of anti-social or aggressive behaviors?	We definitely have some of that. Really in every grade, but more aggressive behavior, I would say we see more of that in fourth grade.
During this study, have you noticed any changes among the third graders?	I have, especially the two classes that have come in weekly. I've heard them talking about empathy in many different scenarios outside of the class. We were writing Christmas cards for the children in the children's hospital, and just listening to their conversations about empathy, and how they could only imagine what that would be like, was really cool to hear.
Can you describe how you thought the children responded to some of those lessons we had on empathy?	I think empathy is a complex thing to get children to understand, so the way it was broken down by the books, the fish…I think it was very age-appropriate. It was hands-on, which I think helped a lot. I really wasn't sure at first, but as we went through it, I saw them really taking to it well.
As the guidance counselor, do you have suggestions for other teachers who are trying to teach empathy?	I think empathy's a bigger concept for kids to understand, so I think the more hands-on…having the pet in the room, I think that was a really great way – something they could really relate it to.
Is there anything else that you've observed throughout the study?	I feel like this is something the students will not forget, and I feel like now that they really understand empathy, I think that we will…we've already seen the positive change, and I think we'll continue to. Hopefully it'll help eliminate bullying incidents, them feeling confident enough to be up-standers, because empathy plays a big part in all of that, so I think it'll help our all-around school climate, I really do.
Is bullying something that you've noticed?	It's definitely something that comes up, not a ton in elementary school, but it's still a prominent issue in schools. One way that we try to tackle that is through teaching empathy and empathy lessons, so with doing this with the entire third grade, I really think that it's going to help our whole school climate.

After participating in this study, what would be your opinion on having a classroom pet, or what do you think other teachers should know about having a pet?	Oh I feel like that would help tremendously. I felt like that was part of empathy being so abstract, that it makes it a little more hands-on and tangible for the children to understand. For instance, with the fish, when we were talking about over-feeding the fish or during the weekends what if the fish doesn't eat…the kids really emotionally responded to that, and you could tell how it really bothered them, the thought of the fish not getting enough food or it getting too much and it hurting them. I felt like a pet is a fabulous way to do that. And there was not one student that did not agree with that, they all were on board.
Were there any other extensions or examples where you noticed students demonstrating what they had learned about empathy?	When we have our Kindness Week, I expect there to be a big change in third grade from last year and how they react.

Appendix H: Documentation of Qualitative Coding Process

Initial Analysis from Researcher 1

Themes	*Evidence from Interviews*
1. Social-Emotional Climate	All different levels of social-emotional status. Socially, not everyone is where they need to be.
	Emotional instability.
	We have several students in my class that have some emotional issues.
	Difficulties with simple transitions/any kind of changes in schedule.
	Emotions are up and down and all over the place.
	Several kids that are very emotional.
	Quite a few kids that have a log going on in their home life.
	Several that have medical diagnosis.
	One student who melts down, beats his head.
	They're all dealing with so many different things and so many different medical diagnoses and personalities…it's just a hard, emotional group.
	I have a lot of emotional students.
	A lot of anxiety.
	A lot of need for love and affection.
	We're working on the social-emotional aspect, even outside of the fish!
	It's more peer-conflict-type stuff, but it's more peer pressure, clicks…it's more social-based, the emotional part stems from that.

2. Family	I feel like when we're here, we're a family. We create that culture of "we're family." Would we treat our family members this way?
	I love the idea of a classroom pet, because, again, we're family.
	It holds them [students] accountable, knowing that he's [the pet fish] a part of our classroom family now!
3. Benefits of classroom pets and classroom pets as project topic/theme	[Pets are] not going to have anything negative to say.
	Warm, fuzzy feelings.
	Provide for an animal, or care for an animal.
	Caring for something that's living.
	Allowing it to thrive and grow.
	Teamwork to care for a pet.
	Responsibility.
	Caring for something else could prepare them later on in life for taking care of themselves/own families.
	You've got to keep it living, so that's the same thing if they have children one day.
	I love the benefit of it – just trying to figure out the maintenance of it and all the kids can do.
	And it helps with responsibility, too.
	Caring for other things.
	It teaches kids to care and think about other beings, whether it's a fish, whether it's a guinea pig.
	I just think having those creatures who love you and need you is a very important part of being a human and learning to take care of other people.
	Sometimes he [child with behavioral issue] would just go over and watch the fish swim back and forth; that could help soothe some of the emotions that were going on in him.

	More responsibility, more mindfulness of their actions. A lot more investment in making good choices and maintaining positive and acceptable behavior. I have noticed the kids have been more gentle with each other, more understanding of each other. There's just been more of an awareness. It's starting a project from start to finish and following all the way through and investigating and researching and making sure you have what you need to be successful, which kind of relates to a classroom pet! From the time you get it to the time it dies, it's that follow-through of taking care of your responsibilities.
4. Benefits of empathy-based lessons	I have a couple of kids that before the study, they were not very social, and I've noticed those kids actually branching out more, some kids that would either throw fits or just shut down, and I've seen more handling those intense emotions in a better way. There were several students that went like out on the playground: if somebody got hurt, everybody running up to them and really trying to be supportive. I've heard them talking about empathy in many different scenarios outside of the class…listening to their conversations about empathy…was really cool to hear. I think empathy is a complex thing to get children to understand, so the way it was broken down by the books, the fish…I think it was very age appropriate. It was hands-on, which I think helped a lot. I think empathy's a bigger concept for kids to understand, so I think the more hands-on…having the pet in the room, I think that was a really great way – something they could really relate it to. I feel like this is something the students will not forget, and I feel like now that they really understand empathy, I think that we will…we've already seen the positive change, and I think we'll continue to.

	Hopefully it'll help eliminate bullying incidents, them feeling confident enough to be upstanders, because empathy plays a big part in all of that, so I think it'll help our all-around school climate. One way that we try to tackle [bullying] is through teaching empathy and empathy lessons, so with doing this with the entire third grade, I really think that it's going to help our whole school climate. Part of empathy being so abstract…it makes it a little more hands-on and tangible for the children to understand.
5. Teacher's Personal Beliefs on Pets, including Allergies	I think pets are important. I grew up with pets as a child; I just think having those creatures who love you and need you is a very important part of being a human and learning to take care of other people. My problem with a classroom pet is I just don't…I'm here from 7 am until 6 pm every single day and having a pet would be another good hour a week of cleaning cages or tanks or whatever. And then the money. I wasn't looking at the emotional, social aspect of it; I was looking at it from the scientific aspect of it, trying to meet our standards. I'm all about having a classroom pet, it's the added work. I think that there has to be more; there has to be a deeper purpose to having the classroom pet than just for the sake of having it. Whether it's tying it to behavior and being able to share in the responsibility for caring for him, or if it's tied to social-emotional learning or some other topic where they learn from it rather than just having it sit there. I think that's a really important aspect because it helps give them that buy-in; it gives them that responsibility. I feel like that [classroom pet] would help tremendously. I felt like a pet is a fabulous way to do that [teach empathy].

	I'm the one that was allergic to the guinea pig. I love the idea if we could have one, like a fish, that would suit everyone, because I had some kiddos that were allergic as well and were unable to do that.
6. Teachers' Personal Beliefs on Teaching Empathy	Important life skill. We don't want them to just be sympathetic. Help feel and understand their pain. Understanding and compassionate. Not just something we can teach in the classroom. Empathy could go a long way in life. Could help build character and create better individuals who will be caring for themselves and one day taking care of others. It's amazing to watch the compassion of students and how they nurture each other. It's amazing to watch 8-year-olds care about each other and be accepting of each other despite some differences. I try to pull empathy into my class. We talk about showing kindness. We've been trying to talk all year about how to be kind to each other, but some of these kids are just innately kind. Some people come into life with that ability…but I do try to show kindness and to teach kids how kindness is important.
7. Guinea Pig vs Fish	Guinea pig is more of a challenge of cleaning it. Require a lot more attention than a fish. Guinea pig needs love and attention. Worry about care, a lot more work than a fish. Cannot tell difference in how children responded to one over the other.

| | Kids would still gather around aquarium and would look at fish.

Looked forward to feeding fish.

Seem to enjoy it [fish] just as much as the pig.

It teaches kids to care and to think about other beings, whether it's a fish, whether it's a guinea pig.

They know it's obviously not just like having a dog, but in a way, it's kind of like having a dog where you have to keep up that responsibility and your end of the bargain. |
|---|---|

Analysis from Researcher 2

Teacher Interview, Control Group

Teacher Interview, Pet Only

Teacher Interview, Lessons Only

Teacher Interview, Pet + Lessons

Teacher Interview, Guidance Counselor

social-emotional climate of your classroom	• different levels of social-emotional status for our kiddos • Socially, not everyone is where they need to be on the third-grade level • some kiddos who are below grade level…but it also affects their ability socially, so they haven't had those interactions and those experiences that other children may have had • the happiest of kiddos…to the saddest of kiddos, and that affects them both socially and emotionally • we have some emotional instability as well • There are three that really have those kind of emotional—their emotions	**Wide range of students with regards to social-emotional competence, with some being below grade level and struggling with emotional instability and/or anxeity and others really excelling and accommodating the needs of their classmates**

	are up and down and all over the place. • and those students in here who don't struggle with that are very perceptive of what's going on with those other kids and are very nurturing and accepting of those other students who do have struggles • It's amazing to watch the compassion of students and how they nurture each other; it's just amazing to watch 8-year-olds care about each other and be accepting of each other despite some differences • There were several students that went like out on the playground: if somebody got hurt, everybody running up to them and really trying to be supportive, and I did notice several instances like that. • It's like that saying of "you never know what somebody else is going through," so I feel like my kids have that understanding of, "I don't know what's going on in so-and-so's life, and they might be acting crazy, but I'm not going to call them out for it or be rude to them or make it worse; I'm just going to try to be a kind presence." • I have noticed the kids have been more gentle with each other, more understanding of each other. • I have a lot of emotional students…a lot of anxiety	

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	• When they're anxious, a lot of my kids are not in tune to what that means, and they tend to shut down or behave a little more negatively because of that anxiety	
	• because of some of the trauma that my kids have gone through… • We have several kids that are very emotional, we have quite a few kids that have a lot going on in their home life, so it's hard to differentiate between what's school-related and what's home-related • We have several that have medical diagnosis, but we have one student who melts down, beats his head…then we have another who does the same thing, but they both have issues at home as well. • They're all dealing with so many different things and so many different medical diagnoses and personalities…it's just a hard, emotional group.	**Trauma, Problems at Home & Medical Diagnoses**
	• And have difficulties sometimes with simple transitions and any kind of changes in schedule. • Sometimes it's just the weather or whatever	**Impact of Transitions and Changes**
Any changes to your classroom climate during this study	• I have a couple of kids that before the study, they were not very social. Or they maybe have one or two people that they'd be social with. And I've noticed those kids actually branching out more, some kids that would either throw	**Mindfullness**

	fits or just shut down, and I've seen more handling those intense emotions in a better way. • more mindfulness of their actions and how that can affect—whether it's themselves or the whole class, or just another classmate besides them.	
	• There's just been more of an awareness. • I've heard them talking about empathy in many different scenarios outside of the class. • We were writing Christmas cards for the children in the children's hospital, and just listening to their conversations about empathy, and how they could only imagine what that would be like, was really cool to hear. • I feel like now that they really understand empathy	**Awareness, Knowledge, & Understanding of Empathy**
	• More responsibility • They have a lot more investment in making good choices and maintaining positive and acceptable behavior. Almost because it's like there's something on the line	**Personal Responsibility and Motivation/Investment**
teaching approach	• lots of love • It takes a minute of getting down and talking to them and looking at them, and I know one kid doesn't get told that he's loved… And sometimes all he needs is for me just to hold him and say, "I love you, always and no matter what."	**Love & Comfort**

	• they're having an emotional moment, and you do your best to comfort them.	
	• kind of treat them like they're my own kids • create that culture of "we're family • Would we treat our family members this way? Even if some of their family members at home threat them in a negative way, it's not allowed here, and it will not be tolerated • we're a family, we work together as a teach (team), and I think it would be teamwork to care for a pet	**Classroom as Family**
	• We treat each other with respect, if we're not getting along with someone, and we don't know how to work through that conflict, we just kind of stay away from that person 'til we learn how to work through that conflict • We have a spot if they just need 5 minutes to go and sit; we have some paper and markers so they can draw, and they can take a break. • We have one student that sometimes just needs to leave and go walk in the hallway and take a break.	**Time Out/Breaks**
	• they're expected to treat others the way they would like to be treated	**Golden Rule**
	• I try to pull empathy into my class.	**Empathy**
	• It depends on what's going on, if there was a motivation for the tantrum.	**Knowledge of Cause and Effect**

	• I was a social worker in my past life; I assess what's going on, and I handle the situation from that point, from what I see is going on. • It varies…you have to look at the situation, what's going on, what motivated it and figure out how to help that child deal with it. • At this point in the year, we know what it's stemming from. • We're getting to the point now to where we know the kids, but then you can also tell when it's sincere	
	• We've got so much in place between Frontier Health and RTIB and our school counselor that usually we can get somebody up here pretty quick to take them one-on-one.	**Resources Outside the Classroom**
	• I try really hard to make it comfortable for the children, to speak honestly about how they feel	**Open Communication**
	• We talk about showing kindness. • We donated food to the animal shelter, and we provided a Thanksgiving meal to somebody through Good Samaritan. • We've been trying to talk all year about how to be kind to each other, but some of these kids are just innately kind. • Some people just come into life with that ability…but I do try to show kindness and to teach kids how kindness is important.	**Acts of Kindness**

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anti-social behaviors	• very jealous of what other kiddos have	**Jealousy**
	• She tries to coerce them into being her friend in a negative way, so it's dishonest behavior	**Coercion**
	• I don't know that I would say bullying because I don't know it's to that level, but she knows right from wrong, but she is craving attention, and I have a few that are like that • A lot of need for love and affection—not necessarily receiving that in other places, but they're not always in tune with what those emotions are or what they mean or how to behave in order to deal with what they're actually seeking for. • If they are looking for attention, they tend to seek out the negative attention versus the positive attention, because they just aren't in tune with how to appropriately cope with that.	**Attention and Affection Seeking Behaviors**
benefit from being around a classroom pet	• a classroom pet is not going to have anything negative to say, and all they're going to feel are those warm, fuzzy feelings about an experience that they might not have a chance to partake in outside of the classroom • They may not have an opportunity to be able to provide for an animal or care for an animal, so I really think that would help them to see that they're caring for something that's	**Positive Experience that Might Not Be Possible At Home**

		living and allowing it to be able to thrive and grow, and maybe they would see that they could do the same thing if they were handled in the same way.	
		• Sometimes he would just go over and watch the fish swim back and forth. That could help soothe some of the emotions that were going on in him.	**Calming/Soothing Emotions**
		• Caring for something else could prepare them later on in life for taking care of themselves in addition to if they have their own families one day • I know it's a very small scale about a classroom pet, but you've got to keep it living, so that's the same thing if they have children one day • Caring for other things, I really wish our school would get a dog or a cat that would trot around the school because I think—we used to have Golden Retrievers that would come in and read with the kids, and it's special. • It teaches kids to care and to think about other beings, whether it's a fish, whether it's a guinea pig • I grew up with pets as a child; I just think having those creatures who love you and need you is a very important part of being a human and learning to take care of other people.	**Learning How to Care for Others (Short-Term & Long-Term Benefits)**
		• see the teamwork	**Teamwork**

	• I'm the science teacher; I wasn't looking at the emotional, social aspect of it, I was looking at it from the scientific aspect of it, trying to meet our standards.	**Meeting Standards**
	• I had a classroom pet my first year teaching, and the kids kind of had to work for it in order to receive it, so I think that there has to be more; there has to be a deeper purpose to having the classroom pet than just for the sake of having it. Whether it's tying it to behavior like I do with the Secret Student and being able to share in the responsibility for caring for him, based on our actions and the choices that we make, or if it's tied to social-emotional learning or some other topic where they learn from it rather than just having it sit there • I have a bucket of names, and each morning I pick one student's name out of the bucket, and I watch that student through the day. I call them my 'Secret Student,' and I remind them that I'm watching my Secret Student, and I'll praise them if I see them doing something that maybe some other students aren't doing, or I'll call out if there's a group of kids that are talking, and I'll say, 'Oh boy…I see my Secret Student talking, that's	**Assisting with Behavior**

	really upsetting, I hope that they fix their actions and their choices…' If they succeed at the end of the day, then they get to care for our fish, and if they don't succeed then I don't announce who it was, but I just say some things that we need to work on in order to succeed for the next day, and then I feed the fish in their place.	
	- I think empathy is a complex thing to get children to understand, so the way it was broken down by the books, the fish… - I think it was very age-appropriate. It was hands-on, which I think helped a lot. - I think empathy's a bigger concept for kids to understand, so I think the more hands-on…having the pet in the room, I think that was a really great way – something they could really relate it to. - I felt like that was part of empathy being so abstract, that it makes it a little more hands-on and tangible for the children to understand. - For instance, with the fish, when we were talking about over-feeding the fish or during the weekends what if the fish doesn't eat…the kids really emotionally responded to that, and you could tell how it really bothered them, the thought	**Hands-on, DAP, Concrete**

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	of the fish not getting enough food or it getting too much and it hurting them.	
	• and how they can work together on their level of responsibility • And it helps with responsibility, too. • I think that's a really important aspect because it helps give them that buy-in; it gives them that responsibility. • It holds them accountable, knowing that he's part of our classroom family now! • And the kids really feel that; they know it's obviously not just like having a dog, but in a way, it's kind of like having a dog where you have to keep up that responsibility and your end of the bargain.	**Responsibility**
opinion about having a classroom pet, or suggestions	• allergic to the guinea pig • a fish, that would suit everyone, because I had some kiddos that were allergic as well and were unable to do that • just trying to figure out the maintenance of it and all of that and what all the kids can do or can't do • It's more of a challenge of cleaning it (guinea pig) • Then they were responsible for keeping them fed through the week, and the cleaning I was afraid to put anybody in charge of that, so I did all the cleaning of the tank. • My problem with a classroom pet is I just	**Logistical Difficulties/Concerns – Allergies, Maintenance, Schedules, Cleaning, Money, Time**

	don't…I'm here from 7 am until 6 pm every single day, and having a pet would be another good hour a week of cleaning cages or tanks or whatever • And then the money, so that was my whole thing. • I'm all about having a classroom pet, it's the added work, and these kids are not old enough to put them in charge of cleaning out a glass tank—it's just not going to happen.	
	• Like a fish, I can just drop in and drop some food in, and the fish doesn't miss me. But a guinea pig needs that love and attention, and they're sweet, but… • We had parents sign up to take the guinea pig home over the weekend, and then you worry about – will it be okay? • It was a lot more work than a fish	**Emotional Needs of the Pet**
	• I love the benefit of it • I love the idea, and I would recommend it for anybody. I've heard great things • I always try to have a class pet, it's just always been something that I've done…I've had a guinea pig one year • I think it's important • I think pets are important. • I have enjoyed it.	**Great Idea**
notice a difference in how the children responded to one over the other?	• No. • But the kids would still gather around, and they have always gathered	**Differences, but not in the level of enjoyment**

	around the aquarium and would look at the fish. • They looked forward to being the one that got to feed the fish that week, so they seem to enjoy it just as much. • The girls would make little clothes for the guinea pig and would get it out some, but they seem to enjoy the fish just as much as the pig.	
approach for project work	• It's starting a project from start to finish, and following it all the way through and investigating and researching and making sure you have what you need to be successful, which kind of relates itself to a classroom pet • So from the time you get it, to the time it dies, it's that follow-through of taking care of your responsibilities.	**Start to Finish – Follow Through**
pre-test and post-test, did you notice them talking to you about any of the questions or words	• I know a few of them had questions if it pertained to them some of the time or all of the time, how they needed to answer • I think they were really thinking about the questions and answering honestly. • When they were taking it some of them were asking if a certain situation would mean a relationship to the question they were being asked, or definition of explaining a word	**Took It Seriously – Lots of Thought**
opinion about teaching empathy, or do you have ideas for other teachers who	• I think it's an important skill in life. • That's an important life skill, not just something	**Life Skill**

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are trying to teach empathy	that we can teach them in the classroom. • I feel like empathy could go a long way in life. • It's one of those that could help build their character and create better individuals who will be caring for themselves one day and taking care of others. • these kids have such rocky lives that if they don't learn how to cope with their stuff, but also how to handle other stuff, it's going to be a really hard lesson for them to learn as they continue to grow, and continue to experience some really hard things at such young ages	
	• We don't want them to just be sympathetic. • We want them to, even though they truly can't through, to kind of help feel and understand their pain. • Be understanding and compassionate about that, even though they may not be able to relate	**More Than Sympathy; An Understanding of Feelings**
Do you see any room for extending the lessons we've been doing the last several weeks?	• If it was something school-wide where it could be built upon year after year, that would be a whole different ballgame, • One way that we try to tackle that (bullying) is through teaching empathy and empathy lessons, so with doing this with the entire third grade, I really think that it's going to help our whole school climate. • When we have our Kindness Week, I expect	**Whole School**

	there to be a big change in third grade from last year and how they react.	
	• They have been going a lot [once a week] because of you, but typically they only go to Guidance once a month. • but I don't think once a week is long enough, and I don't know how much would be long enough…half a year maybe? A year? It would take a long term.	**Longer Time**

Abbreviated Analysis from Researcher 2

<mark>MAJOR THEMES RELATED TO THE RESEARCH</mark> (Students = 3 Changes, Teachers = 9 Areas of Classroom Management, Classroom Pets = 8 Benefits, Lessons/Empathy = 2 Definitions)

<mark>DESCRIPTIVE THEMES</mark> (Students, Classroom Pets)

<mark>SUGGESTIONS/ADVICE</mark> (Classroom Pets, Lessons/Empathy)

GENERAL TOPIC	SPECIFIC QUESTIONS	EMERGENT THEMES
Students	What is the social-emotional climate of your classroom?	**Wide Range of Students (some below grade level and struggling with emotional instability and/or anxeity and others excelling and accommodating the needs of their classmates)**
		Trauma, Problems at Home & Medical Diagnoses
		Impact of Transitions and Changes
	Were there changes to your classroom climate during this study?	**Increase in Mindfullness**
		Awareness, Knowledge, & Understanding of Empathy
		Personal Responsibility and Motivation/Investment
	Anti-social behaviors	**Attention and Affection Seeking Behaviors**
		Coercion

		Jealousy
Teachers/Counselors	Classroom Management	**Teaching Empathy**
		Showing Love & Comfort
		Classroom as Family
		Time Out/Breaks
		Golden Rule
		Teacher Knowledge of Cause and Effect
		Resources Outside the Classroom
		Open Communication
		Teaching Acts of Kindness
Classroom Pets	Benefits from being around a classroom pet	**Positive Experience that Might Not Be Possible At Home**
		Calming/Soothing Emotions
		Learning How to Care for Others (Short-Term & Long-Term Benefits)
		Teamwork
		Meeting Standards
		Assisting Teacher with Behavior
		Hands-on, DAP, Concrete Way to Teach Empathy
		Responsibility
	Opinion about having a classroom pet/issues	**Great Idea**
		Logistical Difficulties/Concerns – Allergies, Maintenance, Schedules, Cleaning, Money, Time
		Emotional Needs of the Pet (for the Guinea Pig Compared to the Fish)
	Did you notice a difference in how the children responded to the fish over the guinea pig?	**Differences, but not in the level of enjoyment**
Lessons/Empathy	Opinion about teaching empathy	**Life Skill**
		More Than Sympathy; An Understanding of Feelings
	Do you see any room for extending the lessons we've	**Needs to Involve Whole Grade or Whole School**
		Needs A Longer Time

	been doing the last several weeks?	

Finalized List of Emergent Topics and Themes – 100% Agreement between Researchers 1 & 2

General Topic	Identifiers from Interviews	Emergent Themes
Students	Students' behaviors: what is the social-emotional climate of each classroom? Positive changes in students' prosocial behaviors during study Examples of students' antisocial behaviors prior to study	• Wide Range of Students – some struggling with emotional instability and/or anxiety, while others excel in showing compassion and understanding to peers. • Trauma, Problems at Home, and Medical Diagnoses • Increase in Mindfulness and Awareness • Knowledge and Understanding of Empathy • Responsibility and Intrinsic Motivation/Investment • Attention & Affection Seeking Behaviors, Coercion, & Jealousy
Teachers/Counselor	Personal Beliefs Teaching Styles	• Creating a "Family" Classroom Culture • Golden Rule • Showing Love & Comfort • Teaching Empathy and Acts of Kindness • Classroom Management – using strategies to manage challenging anti-social behaviors • Teacher Knowledge of Cause & Effect • Resources Outside the Classroom

Classroom Pets	Benefits	• Positive Experience that might not be Possible at Home • Calming/Soothing Emotions • Learning How to Care for Others • Responsibility & Teamwork • Hands-On, DAP, Concrete way to Teach Empathy • Assisting Teacher with Behavior • Meeting Standards
	Personal opinions on having a classroom pet *Did you notice a difference in how the children responded to the fish over the guinea pig?*	• **Logistical Concerns** – Allergies, Maintenance, Schedules, Time, & Money • Differences in Emotional Needs for Pets (Guinea Pigs versus Fish) • *Differences, but not in the level of enjoyment*
Lessons/Empathy	Opinion about teaching empathy Extending the Empathy Lessons	• Empathy as an Abstract Concept • Important Life Skill • More than just Sympathy • Involve Whole School • Longer Time Frame

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