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Chapter One: Introduction

Introduction

Many people have fond memories, or not so fond memories of pets they interacted with as children. Some of these pets were class pets, or animals that lived in their classrooms at school. These animals range in size from dogs to mice, reptiles, fish, and occasionally insects. Many perceive animals in the classroom as superfluous frills that are "fun", but not necessarily educational. While it may be true that a little time spent watching or holding a small mammal can be great fun for students of any age, there is much more to the story. Animals used in classrooms can help children feel at home, feel important, and learn valuable skills. If properly structured, time spent focusing on the animal can directly correlate to state standards in literacy, mathematics, science, and inquiry skills. A live animal who is the inspiration for a literacy project, a graph in math, or a carefully designed science experiment can serve to engage even the most reluctant of students.

As many studies have proven about the arts (another subject that has been cut due to being viewed as a frill), I will prove that class pets can be just as essential to a good education and to engaging students. I hope my work will complement the body of literature that supports a varied and well-rounded education for students, rather than the "back to basics" trend that leaves almost all classroom time to literacy and mathematics.

Nature of the Problem

Before one can hope to successfully introduce an animal to a classroom, careful research,

planning, and structuring are necessary. First, the teacher must consider the classroom. The students' ages have a huge effect on the type of animal and class pet experience most likely to be meaningful. For example, children who are older than ten with a certain level of emotional maturity would be able to interact with certain types of animals which would be impossible for younger children. For instance, rabbits and Guinea pigs can be fatally injured if held the wrong way or dropped even once. Older students with age-appropriate maturity would likely be much more respectful of instructions on how to hold and interact with these delicate animals. Young or emotionally immature students may “forget” the proper way to interact with the animal, or simply become too excited to follow the rules they were given.

For these reasons and many others, the species and temperament of the animal can make or break the entire class pet experience. An animal who is easily frightened, shy, or prone to biting or scratching is obviously never appropriate. Furthermore, animals who are stressed by excessive noise and activity may not be appropriate for classroom use, since any classroom gets a little noisy now and again. Decisions about which type of animal to introduce are tricky since the teacher must balance the needs of the students with the needs of the animal. As in any classroom situation, students need to be in safe, structured situations. Animals also need to feel safe and well cared for. In this work, I will come to one conclusion about which species of animal is safest and most likely to encourage engaging lessons in my classroom, and introduce that animal as a class pet in order to engage my students. Teachers with different classroom populations, ages, and district requirements may reach very different conclusions about the species of animal most effective in their classrooms. Teachers will also need to consider any allergies that they or their students may have – or even allergies that other students in the

building may have.

Another topic that teachers need to carefully consider is exactly how their class pet will fit into their class schedule. This part is mainly careful lesson planning, with plenty of backup activities and worst case scenario options. For example, even if a teacher knows an animal well, the animal may still do something unpredictable or become agitated. The teacher should always be prepared for this, and be prepared to place the animal away from the students.

Furthermore, any activity involving a class pet should be structured in such a way that students always know how they should be behaving around the animal. This means that careful thought and planning needs to go into each lesson. Additionally, lessons should be structured to make sure that all objectives are being met. First, of course, is safety on the part of both the students and the animal. Lessons need to be planned and structured so that there is always an academic outcome. Today's school days are too short and the curricula are too involved for teachers to waste any time on activities that are not helping their students learn. This means that if students are allowed times to hold and interact with the class pet, these should have an ultimate outcome rooted in literacy, mathematics, or 21st Century skills. For example, holding an animal may inspire a creative writing project about how the world looks from the animal's point of view.

Thesis

Animals can be used in classrooms to engage students and deepen understanding of literacy, mathematics, and 21st Century Skills. Through careful structuring and planning, the animal will engage students in the classroom learning environment.

Rationale

With the amount of standardized testing and curricula that students must speed through,

certain types of learning are often pushed to the side such as physical education, the arts, music, and even science. Class pets also leave classrooms because it takes much more thought and planning on the part of the teachers to make lessons involving class pets relevant. However, I will prove that class pets can serve to engage students who may be frustrated by a lack of variety in terms of the arts, music, and physical education within the school day. With careful planning, a class pet can enhance any classroom, and encourage students to engage with the material they are learning.

Key Terms and Definitions

At this time, I have yet to discover any terms that may need extra definitions.

Limitations

This study will be limited mainly by the presence of any allergies among students, as well as by the health of the animals. If the animals in my possession become sick or die unexpectedly, I may have to introduce a stuffed animal as the pet. However, first graders do not have CSAP testing so that will not be a problem for this study.

Procedures

I have already done extensive, if informal, research about which species of animal might work best in a first grade classroom. I've spoken with teachers, animal owners, and animal rescue workers. In the end, I've discovered that rats are the ideal class pets, since they are clean, social, and extremely unlikely to bite even if startled.

I will continue my research by reading scholarly journals that discuss how best to use animals to help students learn about important concepts such as literacy, mathematics, and 21st Century Skills. I will also look into how animals are used to engage low achieving, special

needs, and at-risk students since I will certainly have students in my class that fit some or all of those descriptions. Though my focus is on how I can engage the *entire* class through the use of a class pet, it is still valuable to recognize how some of the potentially neediest students may benefit from the introduction of an animal.

Organization of the Remainder of the Study

Up next, I will detail my research, both informal through the use of interviews and emails about which species of animal is best for a classroom, and formal in the form of scholarly articles about the use of class pets to engage students in learning valuable skills. I will organize different sections within the research chapter to deal with the various issues of how to engage an entire classroom of students in various subjects, how especially at-risk students benefit from a class pet used to engage them in materials, and how special needs students benefit from class pets. I will also give more details and examples of what teachers should avoid doing when introducing a class pet, as well as specific rules and structuring that make the class pet more effective in the classroom.

In chapter three, I will lay out a best practice model based upon the species I have chosen, my classroom population and their needs, and the academic goals of the students. This will include procedures for handling the class pet(s), lesson plans that involve the class pet, and any other relevant information about the introduction and use of animals in my classroom to engage students and enhance learning.

Finally, in chapter four I will discuss the outcomes of my research, including student work and measures of student engagement. I will also make recommendations for future research and implementation.

Chapter Two: Research

Animals fill many roles in the lives of people of all ages. Men, women, children, people of every background keep pets, love animals that belong to relatives and friends, and come into contact with animals in a variety of other ways. It's hard to find anybody who doesn't have a story about an animal that was or still is important in their life. In fact, nearly fifty percent of American households include pets (Beck & Meyers, 1987, quoted in Rud, 2003). Considering the care that animals require, the benefits must outweigh the extra time and effort it takes to clean a litterbox, go on a walk, and make sure the animal is always well fed. Besides simply having a companion, research shows that animals benefit humans in a variety of important ways. According to Rud (2003), up to 70% of adult pet owners confide in their pets. Furthermore, Zasloff (1999) states that "Children seem to have a natural affinity for... animals" (p. 348). He even goes on to reference several studies which suggest that animals contribute to children's development and quality of life.

The potential benefits of animals are endless, and difficult to study and measure. However, nearly all available research about animals and children in particular come to similar conclusions. Barring allergies and phobias, children can really only stand to benefit from coming into supervised contact with trained, properly cared for animals. Research shows that animals help children learn social skills, regulate their emotions, relate to peers, learn about responsibility; respect, and humane treatment, as well as motivating children to learn, grow, and heal in a variety of settings. Currently animals ranging from therapy dogs to mice, birds, and fish are used for these purposes in hospitals, treatment facilities, schools, and homes. However, nearly all research on human-animal interactions conclude that more information needs to be

done on exactly how and why animals bring so many benefits to the people with whom they interact.

But exactly how are animals used in schools? As one might imagine, there are a variety of problems to overcome before even the most well-behaved, clean animal is allowed in a school. In two surveys of teachers from California and Indiana, teachers stated a variety of reasons why they did not have living animals in their classrooms, or were concerned about including animals in the future. The most common for the Californian teachers seemed to be concerns about the extra work involved in caring for animals both during the school week as well as over weekends and holidays (Zasloff, 1999). 68% of teachers surveyed in California held this concern, even though a portion of this 68% welcomed animals into their classrooms anyways. 9.1% of Indianan teachers held a similar concern (Rud, 2003). Another major concern of both groups of teachers involved liabilities and school/district rules about animals. This category included such concerns as the unpredictable behavior of animals (i.e., biting), as well as the possibility of allergies, disease transmission, children's fears, and school policies. 23% of Californian teachers stated that these issues were a major concern, while the Indianan teachers were split with 36.4% concerned about school/district polices, 20.8% concerned about children's (and their own) dislikes and fears of animals, and 15.9% concerned about potential health risks such as allergies and diseases (Zasloff, 1999; Rud, 2003).

These two groups of teachers went on to describe concerns involving not having enough space in their classrooms, potential distractions from animal behavior and scent, distractions from the curriculum in which the animals do not fit, and the complications that arise if an animal is sick or dies. However, 59% of Californian teachers overcame these challenges to keep live

animals in their classrooms, and 22% who did not keep animals in the classroom allowed visiting animals on a regular basis. In Indiana, 26.1% of teachers kept animals in their classrooms, and 46% of teachers who did not have classroom animals allowed animal visitors. These animals kept in the classroom represent a wide variety of species. 38% of classroom animals in Indiana and 26.3% of classroom animals in California were mammals (including cats, hamsters, mice, hedgehogs and rabbits, among others). 5% and 1.6% of these animals were birds in California and Indiana respectively, while 69% and 72.1% were other types of creatures including fish, reptiles, hermit crabs, insects, snails, tarantulas, and amphibians (Zasloff, 1999; Rud, 2003).

Teachers also reported on their reasons for including animals in their classrooms. 73% of Californian teachers and 11% of Indianan teachers stated that the animals in their classrooms taught children about responsibility, respect, and humane treatment of animals. 41% of Californian teachers and 27% of Indianan teachers stated that animals helped them teach curricular skills and procedures such as life cycles, animal observation, and animal habitats. Smaller percentages of teachers from each group also reported that they had animals in their classrooms to promote psychological well-being, emotional health, self-esteem, and social behaviors. However, 37.4% of the Indianan teachers reported having animals in school for “enjoyment”. It's hard to tell if this is enjoyment of school (i.e. motivation), enjoyment of having an animal around (which could relate to emotional health), or engagement in classroom routines, activities and lessons involving the animal (Zasloff, 1999; Rud, 2003).

The teachers in these two studies represent the wide range of teachers in rural, suburban and urban settings teaching a wide variety of students across America. Many other teachers across America and around the world incorporate living animals into classrooms. For example,

Ruid (2000) observed a fourth grade teacher using chinchillas to teach economics as the students sold the baby chinchillas to a pet store to buy supplies for the mother. Another teacher noticed that even her “toughest boys” would become nurturing when interacting with the class pet, a rabbit named Peanut (Bartlett, 2006).

While many teachers have reported similar benefits and positive experiences incorporating animals into their classrooms, it is important to look more closely at why they might have seen these benefits and how the animal-child interactions may have played out. Only a closer study of these situations and interactions can provide a model of how the negative aspects of animals in a classroom can be outweighed by the positive effects on children's learning and emotional health.

Animals Helping People: Therapy Dogs

One well-documented way that animals have been used to teach and heal people is through therapy dogs. Therapy dogs are specially trained and certified to be responsive, calm, and compassionate towards humans in various states of pain, injury, stress, and joy. Professionals state that therapy dogs are versatile enough to help people reach a wide variety of goals (Watts, 2009). Watts is careful to state that therapy dogs are not service dogs. Service dogs are trained to help just one person (who is often physically disabled) accomplish daily tasks, while therapy dogs can work with many people at once to achieve goals often unrelated to completing daily tasks. Therapy dogs are used in hospitals, homes, schools, and a variety of other locations to help children and adults achieve goals in fine motor skills, emotional health, increasing motivation, and learning difficult academic or physical skills (Watts, 2009). Scallion (2010) adds that she has used therapy dogs in schools to build trust, help students and staff

socialize, brighten moods and attitudes, and diminish abusive behaviors.

A study in 2000, cited in Jalongo, states that "...the presence of a calm, attentive dog apparently moderates the stress responses more than the presence of an adult and even more than the presence of a supportive friend when children were reading aloud or having a routine medical exam," (p. 9). Furthermore, a second study cited in Jalongo states that when a child with a disability was accompanied by a dog, his classmates without disabilities were ten times more likely to interact with him than if he was not accompanied by a dog.

Therapy dogs are also often used as emotional support for children, a cause which many teachers, psychologists, administrators, and healthcare professionals believe is extremely important. A teacher quoted in the *Times Educational Supplement* states that "Sometimes the affection of the pet is the only warmth a child has," (Dean, 2000, p 1). A study cited in Anderson(2006) states that 47% of children responded in an interview that pets were important so that they could have "someone to love". A third study cited in Jalongo (2004) states that over 70% of children talk to animals and confide in them.

Many of these results can be gained with any animal, whether it is a trained therapy dog or an untrained dog, cat, rabbit, fish, or frog. In a case study carried out by Anderson, a dog who is not a therapy dog was carefully introduced to a self-contained classroom of six students diagnosed with severe emotional disorders. During the eight weeks prior to the introduction of the dog (named J.D.), data was collected on the students' struggles, emotional states, social behaviors, and emotional crises. J.D., a toy poodle, was then carefully introduced to the classroom. After lessons on how to respectfully interact with J.D., the dog was allowed to wander freely around the classroom, interacting with various students. The students were also

given a supervised thirty minute period each week to interact with J.D. one-on-one. During a second eight week period where J.D. was included in the classroom, a dramatic change was observed in nearly every student. Each child bonded with J.D., stating that he made them feel calmer, happier, and made them want to come to school each day. Empirically, the number of emotional crises that each child experienced diminished both in frequency and duration. J.D. was used as a tool to help calm down anger and relieve anxiety – the teachers encouraged students to observe J.D., gently pet him, and talk to him when they were feeling especially angry, anxious, or sad. At the end of the study, all of the teachers and paraprofessionals in the classroom agreed that J.D. had had a huge effect on making the classroom a more productive, calmer, and safer place for all the children (Anderson, 2006).

Although this is a fantastic success story, Jalongo (2004) cautions all those considering using dogs for therapeutic purposes to only utilize trained therapy dogs. This will help protect teachers and others who wish to use therapy dogs from lawsuits and a variety of other potential problems, including erratic behavior, a lack of cleanliness on the part of the dog, and the potential spread of disease. Jalongo recommends using permission slips and collecting as much animal-related information about the students/participants as possible before bringing in the therapy dog. She also recommends structuring human-animal interactions carefully by explicitly teaching “dos and don'ts” of how to interact with a dog. Lastly, Jalongo emphasizes cultural sensitivity, since people of Middle Eastern or South Asian heritage tend to view dogs as unclean or as a nuisance, rather than as companions.

In the end, though therapy dogs provide a variety of benefits for humans in various circumstances, many of these emotional and social benefits can be gained through interactions

with non-therapy trained dogs and other types of animals. In these instances, the handler just has to be more careful to monitor interactions as well as the physical and emotional states of all involved. Overall, contrary to Jalongo's recommendations, animals of all types can be beneficial for humans.

Emotional and Social Effects of Human-Animal Interactions

Research shows that animals have been used with children to promote positive traits and behavior since at least the Victorian era. In this research, pet animals taught children to demonstrate kindness, which encouraged kind actions throughout the child's life (Daly, 2006). In more modern times, research about children's social development centers around two concepts: dynamic systems theory and attachment theory (as cited in Melson, 2003). Both of these theories focus on how children grow up and learn important skills through the various relationships they are exposed to, ranging from those with parents, siblings, friends, coaches, teachers, other adults, and animals. According to other research cited in Melson (2003), 70% of all households with children younger than six years old had pets, while pets were present in 78% of families with children older than six. This suggests that most children have pets available with whom to bond and build relationships. Even if these children do not bond with their own pets, they are likely to bond with other animals they come into contact with, such as pets that belong to others. Furthermore, even children who do not have pets at home are likely to come into contact with animals in other ways.

Studies have also shown that even when very young children come into contact with animals, the interactions tend to be meaningful for their development. For example, a study cited in Melson (2003) found that toddlers aged 6-30 months of age were much more interested in

interacting with and bonding with live cats and dogs rather than with life-like battery operated cats and dogs. Another study found that nine month old babies showed more interest in interacting with a living rabbit than with an adult woman (who was a stranger) or flashy, moving toy (Melson, 2003).

It seems that even adults may have an easier time relating to animals than humans occasionally. In a child abuse case, a lawyer described some of the abusive actions perpetrated against a young child. In her attempts to describe the scene, she asked the judge to imagine the child as a puppy being battered and choked. In the end, her professional colleagues, as well as the judge, told her that this image was more powerful even than the image of that young child being choked and battered. Boat (1995), a researcher working to clarify the link between violence to children and violence to animals, found this story particularly moving since it suggests that “society has a lower tolerance for cruelty and damage to animals than for cruelty and damage to children,” (p 231). Though Boat does not discuss why this may be, there is a possibility that it has to do with the fact that so many people own, bond with, confide in, and love animals.

This seemingly inherent and widespread appreciation for animals can be used in classrooms to help heal, teach, and motivate both children and teachers. According to Vygotsky (as summarized in Boat, 1995), children tend to learn better when they are emotionally invested and/or when their learning is centered around meaningful relationships. For these reasons, it is important to make sure that schools are positive social and emotional experiences for children. According to a variety of research, animals from therapy dogs to other types of creatures can play a major role in creating just such a welcoming, engaging environment.

Meadon, a professor of special education, gives a variety of tips on how to create an effective, safe and productive classroom environment that includes animals. She states that animals can help young children develop socially, as well as develop self confidence. However, she especially focuses on how animals can be used to help build community in a classroom. She suggests that teachers involve children in as many tasks regarding the animal as possible, ranging from naming the animal to feeding, cleaning the habitat, and simply watching. Meadon also states that the classroom animal can act as a social lubricant, giving students a topic which they can all discuss with confidence. Lastly, if a class works together to make sure that the animal is cared for and loved, the class will come together as a team and community, building a better environment for learning (Meadon, 2010). However, as discussed before, the teacher must make sure that any potential drawbacks to having an animal in the classroom are addressed (such as safety concerns, health concerns, etc.)

Based on a study in an Austrian classroom, researcher Kotrschal found that even the presence of an animal without significant structuring and programming can do good for students' emotional health. In one classroom that was described as “diverse” with students from many different language backgrounds, positive and negative home environments, and a variety of disruptive behavior, a dog was introduced that was allowed to roam freely during “open teaching situations”, or times when students were not receiving direct instruction. Researchers observed that although students took time to interact with the dog, they also spent more time on task and listening to the teacher than they did during the same sorts of situations before the dog was present. Researchers also witnessed a significant decrease in disruptive behavior, outbursts, aggression, and other socially negative behavior. The teacher and researchers agreed that with

the presence of a dog, the children became more “socially homogenous” in that shy students gained confidence and aggressive and disruptive students had fewer outbursts (Kotrschal, 2003).

In this case study, as in many of the others, the animals involved tended to be used to non-explicitly teach children about emotional health and social behaviors. In other words, the animals had a calming, uniting effect without any teacher or animal handler telling the students, “This animal will teach you how to make friends”. However, animals can be effective tools for explicit emotional and social learning as well. Flom, an elementary school counselor, discusses her use of “pocket pets” to teach students how to respond to emotions and behave appropriately. Flom (2005) uses gerbils, hamsters, and guinea pigs because they are small and easy to care for in a school setting.

She describes her first visit to each primary classroom in the fall as she brings along a little hamster in a carrying cage. Since the hamster is nervous about the children and location, Flom (2005) uses this as a conversation starter so that the children can talk about their own beginning of the year jitters. When the children offer advice to the hamster and to Flom in caring for a nervous hamster, they are also processing their own emotions and learning to calm their own nerves. As Flom meets with children individually, she allows them to hold her “pocket pets” only if they show a certain level of self control. In this way, she is able to explicitly teach children methods of self-control in a setting that is engaging to the child.

Flom (2005) has also used her small animals as a conversation starter for children dealing with grief, as the small animals do not have long lifespans. She can even model grief, and talk with children about their grief over the pet as a stepping stone towards talking about more intense grief associated with the loss of a family member or friend. Lastly, as Flom explicitly

teaches students how to interact with her hamster, she also explicitly teaches students how to interact with their peers. The little pets give students a non-judgmental creature to practice their social skills with. In the end, Flom states that her little animals have aided her in reaching even the most troubled and difficult to reach students.

In these ways, animals enhance young children's school experiences as well as teach them important social and emotional skills. However, animals can go much further in teaching students important skills. In implicit and explicit ways, animals can also be used to teach children important values that are useful in all areas of a child's life, both at the moment and in future stages of development.

Teaching Curricular Skills

While most public schools are, of course, focused on academic learning, most if not all have some sort of emotional intelligence/ value teaching curriculum. This may come in the form of a conflict resolution program, anti-bullying program, or many other forms. Another format may be added to this list when an animal is added to the classroom environment. If the teacher is able (due to the age and abilities of students) to have the students aid in caring for the animal, this teaches responsibility. In fact, Meadon (2010) states that children learn words and concepts including but not limited to kindness, caring, respect, responsibility, politeness, patience, helping, routines, rules, friendship, sharing, and emotions by caring for and interacting with animals. Many of these concepts tend to be included in emotional intelligence and value-based curricula. Furthermore, remembering Vygotsky's theory that the best learning occurs when students are emotionally engaged, a value based curriculum centered around an animal rather than around a puppet or other fictional character would be much more engaging and effective for

student learning.

In a study involving a survey of seventy-five teachers, the majority of those teachers believed that using living pets in a classroom “contributed to increased empathy, as well as socio-emotional development, in students...” (Suggs, 2010, p. 101). Another study cited stated that the more children were attached to their pets, the more socially competent and empathetic they tended to be. Lastly, Suggs states that the skills taught by character development programs that involve animals such as kindness, honesty, and integrity, transfer to children using these skills as they relate to people as well.

One especially meaningful snapshot of this sort of character development education is described by the researcher Ruid. Ruid (2000) observed a first grade classroom where several pets were part of the classroom community. The teacher encouraged the students to take part in the care of the animals whenever it was possible and safe for both the students and animals. A student would be assigned a specific care task to perform for one animal for the entire week. This student then needed to be responsible in caring for the animal, as well as respectful, careful, and being thorough in performing the task. Instead of simply lecturing about the value of these character traits, the teacher required students to practice showing them in a very concrete manner. And as research suggests, the children who practiced these skills with animals saw the skills transfer into their interactions with people as well.

There are also a variety of ways in which animals can be used in classrooms to teach and support curricular lessons. For example, science curricula often contains lessons about life science, biology, observation skills, and experiments, all of which animals could be involved in. Researchers Wilson and VanCleave (1996) both give examples of humane, curricular

experiments that students of many different levels could use to learn about the particular animals they involve, as well as the scientific process and bodily systems.

One experiment in particular could be slightly adapted to be appropriate for kindergarten students all the way through to high school students. VanCleave (1996) describes a shoebox type container with a large hole cut in the lid. Inside the container is a damp paper towel, upon which is placed a number of living earthworms. When a bright light is shone through the open half of the box, the worms retreat to darker areas of the box. While young children might simply observe the worms move away from the light and discuss ideas such as the senses and cause and effect, older students may be required to follow directions to set up the experiment, or even given certain materials and told to design their own experiment involving response to stimuli in worms.

Another fantastic use of animals in classrooms already commonly occurs across America. Programs such as “Reading Education Assistance Dogs”, “Sit Stay Read”, and “Paws to Read” bring well-trained dogs into elementary schools, libraries, and other institutions (Black, 2009). These dogs sit quietly and patiently as students read to them. Researcher Black interviewed a second and third grade teacher who saw profound changes in his students' confidence, abilities, and motivation when they were able to read to the dogs. Black theorizes that since the dogs listen without commenting, criticizing, or becoming distracted, they are the perfect audience for a struggling child. Furthermore, according to research, the presence of a calm, attentive dog serves to lower student anxiety, further supporting their performance. Though Black does not suggest using any type of animal besides trained therapy dogs for this sort of program, teachers may see similar effects with the use of other types of animals (so long as they were calm and trained), or even stuffed animals.

Animal Species and Applications at Columbia Elementary

In the end, it's clear that animals bring a variety of benefits to classrooms, both through the opportunities for explicit teaching of curriculum and social/emotional skills, as well as through the community building, social opportunities, and calming affects animals inherently bring. Only the technical questions remain: which type of animal is best for me to use in my fifth grade classroom, and what are the best ways to use the animal to benefit student learning? After speaking with a variety of teachers, animal breeders, pet shop owners, as well as more informal internet research, I came to the following conclusions.

First, district rules and my cooperating teacher's preferences would weigh heavily on what I could bring into the classroom. Being a young teacher, I do not want to bring in an animal that could be a distraction to either me or the children as I teach. I also want to include an animal that would be safe, healthy, and happy in a classroom setting. These restrictions eliminated the options of reptiles (due to possible disease transmission) and ferrets (since they sleep during the day and would be stressed by the commotion of a classroom). I personally am allergic to cats, and discovered that guinea pigs are delicate and can be seriously injured or killed or handled incorrectly even once. Rabbits tend to be skittish and might be stressed by a classroom environment, while many other types of rodents including hamsters and gerbils are too likely to bite for me to consider using them around children. I also eliminated dogs from my potential list of animals, since dogs require far more time, energy, and training than I am able to do at this point.

In the end, captive-bred rats seem to be the perfect happy medium. They are lively and social, adjusting their flexible sleeping schedules so that they can maximize their time interacting

with humans. Rats are also extremely intelligent since they can be litter box trained, learn tricks, and run mazes. Furthermore, rats clean themselves and like to keep their homes tidy as well. Lastly, they are the least likely of any rodent (including rabbits), to bite, even when threatened.

Based upon this information, I purchased a pair of male rats from a local breeder. The two are brothers, and get along well with each other. They also exhibit typical male rat behavior, which means they tend to be more relaxed and loving than the active females. After weeks of daily handling and socialization with absolutely no biting or other problematic behavior, I am convinced that these rats will be useful in a variety of classrooms in many different ways. In Chapter Three, I will detail my plans for bringing these rats into the fifth grade classroom, as well as how I plan to use them to enhance learning. Since the classroom already has a class pet, this could be complicated. However, I am confident that with the wealth of possibilities available in animal-based lesson plans and curricula, I will develop a plan that benefits my students.

Chapter Three

In this chapter, I will be describing exactly how I intend to implement rats into my classroom, and the results I might expect. I will begin by describing the demographics of my classroom, continue to the new classroom routines I will implement as a result of the introduction of rats, and conclude with a description of the project involving the rats to increase student motivation.

In my fifth grade classroom of 22 children, I have three students on IEPs. One is on an IEP for behavior reasons alone, has missed a lot of school, and also has academic needs. Two students are identified as gifted, and another was tested but had abilities only slightly lower than what could have him qualify as gifted. Two students qualify as English Language Learners. Three (that I am aware of) have been homeless at some point in the past three years.

Most of my students are from single parent families and/or have some sort of tumult at home, whether a parent is in jail, not present, or not nurturing enough to meet the child's needs. Last, 80% of my students receive free or reduced price lunches. There are several students whom I plan to track especially closely since I suspect that they will have the greatest gains (and because their needs are complex, and I hope that animals will help me in addressing those needs).

One student, John (name changed), was recently adopted out of the foster care system and has changed his name. He has several bad habits that he learned from the years before he was in foster care including hoarding, stealing, and being very sneaky. He is currently in legal trouble due to the fact that he stole several musical instruments from the school last year. The DA is requiring community service and the "Scared Straight" program. I hope that John finds

comfort in the rats' unconditional interest/love, and is more motivated to focus on schoolwork which involves the rats.

Another student, Fred (name changed), is with me half days since he is gradually being mainstreamed from a self-contained SIED program. He struggles academically, but his most profound issues are social. He does not have any friends, shows no interest in making friends, and is deeply sad. I aim to pair him with another student in a care job with the rats in order to encourage him to have positive social interactions.

One student, George (name changed), is diagnosed with ADHD but also displays tendencies of oppositional defiance disorder and often seems distracted. He is near grade level in reading fluency, but far below grade level in reading comprehension, writing, and math. His performance on any given task is heavily influenced by his attitude and how distracted he is. If he does not feel connected to a task, it is very difficult to make him focus. I hope that involving the rats in a writing project (writing is a struggle for George) will keep him focused and motivated throughout the project.

Last, I have two girls named Abby and Andrea (names changed) who are experiencing intense tumult at home. Andrea's mother is a single parent, and has had several minor surgeries this year. Andrea does not understand what is happening to her mother and connects the minor surgeries her mother is having to the major surgery during which her great-grandmother passed away. We support her the best we can; however, Andrea needs a lot of support and encouragement in the classroom in order for her to feel successful. Abby's mother passed away last school year due to alcoholism, after neglecting Abby and putting Abby into a parent's role. Abby now lives with her aunt and grandfather. Though they are supportive and loving, Abby has

been through a lot and sometimes needs extra support in the classroom. My hope is that both of these girls will enjoy the love from the rats, and feel supported in the more positive classroom environment that I hope the rats will encourage.

Currently, the classroom has an axolotl named Sal as a class pet who resides in the corner of the room. It is fed by a student who is randomly chosen each week. Students do not pay much attention to it, though George sits near Sal and seems to have bonded with him. I occasionally catch George with his fingers in or near the water of Sal's tank. During a math test in February, George was frustrated and so made a variety of odd hand motions towards Sal. I hope to observe George's relationships with all the animals in the room once the rats are introduced.

The rats will not be included until fourth quarter, after the TCAP testing is finished. At this time, teacher and student motivation alike is often very low, since the high-stakes tests are over and summer vacation is approaching. In order to keep students engaged as well as prepare them for the changes of middle school, I plan to drastically rearrange the classroom furniture and routine. After spring break, students will be welcomed to sixth grade. Their desks (currently arranged in pods) will be arranged in rows. Previously, students had spent much class time on the carpet. In sixth grade, they will be seated at desks at all times. I will have rows of plastic bins around the room that they will use as "lockers" – they will no longer be allowed to store anything inside their desks. This will help them learn to be organized. We will also begin a routine where between "classes", students will have a "passing time" in which to use the restroom, collect the correct books/notebooks, and take care of any other needs they may have. This passing time will be important to the classroom routines related to the care of the rats.

The rats will be introduced to the students as both our pets and as animals we will learn from. As a class, students will be fully in charge of the care of the rats. Students will feed the rats first thing in the morning, check their water during any passing time throughout the day, and clean the rats' home during specified times (recess or after school). All students who are interested will be included in the rotation to take care of the rats. This way, students who may be a little nervous about rats will not have to come into direct contact with them right away.

On the rotation (which will change weekly), seven students each week will be directly responsible for some aspect of the rats' care. Two students will jointly be responsible for feeding the rats, two for keeping the water bottle full at all times, two for cleaning the rats' bedding on Tuesdays and Fridays, and one to oversee the other six and fill in if anybody is absent (especially if two students sharing a responsibility are absent). Students will have to communicate with each other to share their responsibilities, and the "overseer" student will have to communicate with each of the six other students to make sure that they have done their duties.

This sort of plan is designed to develop classroom unity and ownership of the rats from the very first day. I will tell the students that from that moment on, they as a class will be fully responsible for the care of the rats. I will be taking them home over each weekend (or potentially sending them home with various students if the interest is great enough), but otherwise the food, water and cleanliness of the rats' home is dependent on the students. If conditions are such that the health or safety of the rats is in question, I will, of course, step in. But otherwise, it is the students' responsibility to care for the animals. Fortunately, these rats are very good at reminding me when their needs have not been met – ideally, they will remind the students in the same way (squeaking, rattling the bars of their cage, etc.).

Results I expect from this classroom routine include a new sense of classroom unity, increased opportunities for students to make friends, and opportunities to develop responsibility, communication, and leadership skills. I will strategically place students in each role, especially the first few weeks. For example, I will involve George in the care of the rats as much as possible, and I will pair Fred with a kind student who I know will be a good role model of social skills.

In order to measure motivation, classroom environment, etc., I will administer a Likert Scale assessment before the rats are brought into the classroom. It will measure how much students like school, their social skills, leadership, etc. What I would hope to see are students showing a higher interest/enjoyment of school, their friendships, and writing after the introduction of the rats and the accompanying writing project.

Research Paper Ten Lessons:

Day 1: Introduction Day

- 30 minutes or less of introduction to rat care, routines
- Review of fact vs. opinion

Day 2: Review of how to pull facts from an article and put them on our formatted notes page.

- How to use simple citations

Day 3: Practice research

- Read article about rats, pull facts onto notes page
- Write a short paragraph using citations
- Make a bibliography from this one article to practice

Day 4: Introduce research topic – your choice of animals

- Children will have some time to look through available books and ask questions
- Once their three research questions are approved, they will have research time

Day 5: Research Day

- With support for properly citing sources in notes to make writing easier

Day 6: Research Day II

- 30 minutes of research
- 30 minutes of intensive bibliography support – this will be finished before we go on to rough drafts

Day 7: Rough draft day

- With support – introduction, three body paragraphs answering their three questions, closing

- Citations support

Day 8: Edit/Revise Day

- Check citations with a partner “if it isn't something any third grader could tell you, you should have a citation”

Day 9: Final Copy and Product

- Turn in Product proposals (had information for a few days in advance)

- Final copy work time

- I will meet individually with students I am concerned with their product ideas

- Students will prepare for their short presentations

Day 10: Presentations

- Students will each choose their favorite couple of facts and share with the class, oral report style

Chapter Four

In this chapter, I will further explain my expected outcomes, make recommendations for the use of my research, and conclude this research. I was not able to implement the classroom routines and lesson plans described in Chapter 3 due to a programmatic change. Around the time I began teaching independently, I was chosen for an opportunity to teach in another school for fourth quarter. I was able to finish out the week, but did not have the opportunity to give out the pre-assessment or use any of my lesson plans. Instead of discussing student work and outcomes, I will instead draw upon further research to hypothesize about what could have happened if I had the opportunity to implement my ideas.

Summary

As stated in Chapter Three, I would expect several different outcomes from introducing rats into my fifth grade classroom. First, I expected an increased sense of classroom unity, new and stronger friendships between students, and opportunities for students to develop leadership, responsibility and communication skills. According to the way I designed the introduction of the rats, I believe that all these outcomes are still reasonable to expect. However, there are a variety of ways in which individual students may respond based upon their individual needs.

As discussed in Chapter Three, there are many students in my classroom who have emotional situations at home that cause them to underachieve or act out in the classroom. For example, Abby and Andrea are two girls who are struggling with grief and need extra attention in the classroom. Others include the several children who have been homeless in the last few years, children from unstable and dysfunctional families, and John, the child from foster care who has a learned theft habit. Though these children are dealing with very different issues with

varying levels of support from their families and friends; arguably, they could all benefit from counseling or therapy of some sort. To be clear, these are children who are not diagnosed or labeled with conduct disorders, psychiatric/emotional disturbances, or mental illnesses. They are otherwise healthy children (some dealing with medicated ADD), who are facing pain, grief, and/or abandonment in their lives.

Since many families cannot afford to or do not chose to provide their children with therapy, these children's needs go unmet, often causing more pain for the children and problems in the classroom. Aside from repeatedly sending these children to an overworked school counselor, a teacher has few options. However, Serpell suggests that a well-trained animal can act as a therapist for a child in several essential ways (1999). First, children are often able to relate to and trust an animal more easily than a human therapist, thereby effortlessly creating an essential relationship in the child's life. Serpell goes on to state that animals “seemed to provide the child with a relatively neutral medium through which to express unconscious emotional conflicts, worries and fears.” (Serpell 90). In other words, children could work through difficult emotions with animals just as they would with a human therapist. On a side note, research into how therapists use animals to assist the therapeutic process and the success they find is common.

This idea of the animal-as-therapist is important for several reasons. First, in today's busy and sometimes overcrowded classrooms, a teacher cannot often provide the support that hurting children need. Bringing in help from well-trained animals may be an effective and low-cost solution. Furthermore, teachers are not trained to be therapists. Many pick up on the skills and genuinely want to help their students as much as possible, but simply are not qualified to be therapists for their students. Since an animal cannot speak to the child (and therefore mostly

avoid alienating the child, suggesting an inappropriate course of action, and lawsuits), the animal is perfect to step in when the child's parents or the constraints of money and the school day prohibit therapy.

Based upon this, I might expect that several of my students who fall into this category may develop a therapeutic relationship with the rats. I would allow students to come in at recess if they chose to visit with and hold the rats. This way, they could have the opportunity to talk to the rats and have some of their needs met. Of course, they would also have the opportunity to see the rats during the school day, as well as care for them.

Several other children have needs that are more severe than this group. For example, George. George is suspected to have Oppositional Defiance Disorder (ODD). While ODD can stem from and include some of the emotional issues the other children deal with, it is a different situation and would need to be treated differently. Unfortunately, much of the research involving ODD and other conduct disorders focuses on treatments involving behavioral interventions of various types (Loeber 2009). In other words, children with ODD need more than a therapist to talk to – they need an experience therapist working with them in specific ways, and their parents often need the same in order to support the child. In this case, it doesn't seem appropriate to expect that an animal could serve as a therapist and do much good for a child with ODD.

However, George has shown a great deal of interest in the axolotl currently in the classroom. Although the rats may not help him with his ODD, they could be calming and engaging to him. Also, since George does not have many friendships, the rats may help him bond with other children as they care for the rats in teams.

Lastly, the rats may help Fred, a child who is in the classroom half days since he is

classified as SIED, or emotionally disturbed. Research with two emotionally disturbed boys by Kogan discusses how effective sessions spent training and bonding with a dog were for them (1999). These two boys, aged 11 and 12 years old, had one-hour sessions of AAT, or Animal Assisted Therapy, each week. These boys achieved goals of improving their social skills, self-image, and problem solving skills.

Other research abounds with stories of emotionally disturbed children who connected to animals or benefited from the presence of animals. For example, one researcher interviewed adolescent juvenile offenders entering a resident facility. While these young people may not be emotionally disturbed, it seems safe to say that some were, and most likely could have been classified this way due to the behavior that caused them to be placed in the facility. The interviewer brought a dog along for 10 out of 20 interviews. During the ten interviews without the dog, the interviewer logged 40 responses, while the ten interviews with the dog present resulted in 280 responses (Nebbe 1991). Clearly, the dogs had a strong comforting effect on the adolescents. Nebbe also cites research stating that homes with pets tended to have more emotionally secure environments, as measured by decreased rates of thumb sucking (1991).

Based on this, I predict that the rats may have a soothing effect on Fred. This way, Fred will feel safer and more ready to participate in the classroom once the rats are present. If he feels more secure, he may feel more able to reach his educational and social goals, such as making friends and participating more in the classroom.

Recommendations

This research is useful in several ways, but there is still more to be done. According to nearly every source listed, healthy well-trained animals have positive effects on people with

whom they interact. These effects are often related to emotional well-being, such as self-confidence, motivation, or social interactions. There are theories as to why animals encourage such positive interactions, and hundreds if not millions of case studies and informal anecdotes about people of all ages involved with all types of animals. Based on this research, I would recommend that teachers, therapists, and those involved in the care of people of all types seriously consider involving animals in their classrooms/offices. The evidence suggests that as long as animals are thoughtfully chosen and utilized, there will be positive effects.

However, many principals and supervisors require further scientific justification in order to allow animals into their facilities. For these people, research into the benefits of incorporating animals into classroom settings needs to continue. Research on why AAT and other methods of introducing animals into classroom settings also needs to continue in order to further develop best practices.

Conclusion

In the end, well-trained, healthy animals are almost always beneficial to students when they are incorporated in a thoughtful manor. Obviously, bringing in a pet for fun or without thinking about how children and the animal might respond may not work well. For example, during Chapter Two I discussed a bit about what types of animals might be best suited for a classroom. Prey animals such as rabbits often do not work well since they would be frightened by the commotion of a classroom, and they are easily injured. Of course, reptiles can also be difficult to introduce due to the salmonella risk. However, with some forethought and planning, there are situations and classroom types where any type of animal could help to create positive gains for children. For example, a boisterous intermediate-grade classroom might be convinced

to stay quieter to placate a rabbit, when they would otherwise have disregarded such directions.

Or a primary grade classroom with students who struggle to show responsibility and respect may be convinced to do so if it means they could pet a lizard or snake (followed by an immediate washing and sanitizing of hands). Overall, animals who are thoughtfully incorporated into elementary classroom life tend to only bring positive effects for students.

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