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PART 1. EDUCATING FOR EMPATHY: BEST PRACTICES

What is empathy?

There are two main types of empathy: emotional and cognitive. Emotional empathy is simple and automatic. Also called *compassion* or *empathic concern*, it involves feeling care and concern for others.¹ Cognitive empathy takes a little more effort. Also called *perspective taking*, it involves understanding others' needs and perspectives and how they may differ from one's own. It includes several different "empathy detective" skills, like reading others' emotions and body language, listening carefully, and using imagination to fill in the gaps.

The two types of empathy work best together.² Having only emotional empathy means you care, but don't really understand the perspectives of others, whether humans or animals. This could make it difficult to meet others' needs, and it could also put you in a vulnerable place by not understanding potential risks of interacting. Having only cognitive empathy means you can understand people and animals, but don't care. This is a recipe for manipulation and exploitation, and a barrier to satisfying connections.

Programs that are trying to build empathy should try to increase *both types* of it.

What empathy is not

The word "empathy" is used in many different ways, and the most beneficial types of empathy—both for others and for the empathic person—are those that are focused on understanding and feeling compassion for *others*.³

Some people use the word "empathy" to describe different responses to others that are actually more focused on *oneself*.

1. Empathy is not emotion contagion
2. It's not personal distress
3. It's not putting your *self* in someone else's shoes
4. It's not pity or sympathy

Having an unclear sense of boundaries between the self and others (emotion contagion) or becoming overwhelmed when others are in need (personal distress) are examples of less beneficial types of empathy. Research finds that these don't feel good, which makes people avoid the situation or individual in need, rather than acting with care (e.g. sharing, helping, cooperating, etc).⁴

Empathy is also not about imagining how *you* would act or feel in someone else's situation—it's imagining it from *their* perspective.⁵ Finally, empathy isn't feeling pity for others. When we pity others, we often see their experiences as separate from us, and we often have condescending feelings of feeling sorry for them.⁶ True empathy focuses on the ways in which everyone (including animals) can experience suffering and difficulty. It draws on personal experiences and uses these to have a deeper understanding of how to show care for others, without judgment.

Thus, an important step in designing empathy programs is to help build other-oriented empathy, while avoiding the more self-oriented responses.

Why is empathy important?

Research has found that empathy is good for others, as we might expect. But it is also good for the empathic person.

How empathy benefits others in need. The most important outcome of empathy is prosocial behaviors, such as helping, giving, sharing, volunteering, and cooperating.⁷ Empathy helps people see a common humanity in others who might seem very different from us at first.⁸ But empathy can also bridge what look like other walls—those between human, animals, and the environment. As examples, empathetic people are more likely to support environmental causes,⁹ engage in pro-environmental behaviors,¹⁰ and have more positive attitudes toward animals.¹¹ So, empathy is not just good for other people, but for animals and the earth.

How empathy benefits social relationships. Another important outcome of empathy is that it helps us to get along with others. Empathy is sometimes described as the glue of social relationships. Indeed, research finds that empathic people are more popular, well-liked, and have stronger social relationships.¹²

How empathy benefits empathic people. But empathy also has some surprising benefits for the self. Overall, research finds that empathy is good for one's health and well-being.¹³ For example, research finds that more empathic people have a lower physiological stress response (cortisol levels) during a stressor.¹⁴ Other research confirms that simply shifting one's mindset to focus more on how to benefit others (versus the self) can have an immediate buffering effect on stress hormones.¹⁵ In addition, although many people believe that selfish people get ahead, research actually finds that it's actually more empathic people who enjoy more economic success.¹⁶

But these benefits only exist for other-oriented empathy. As mentioned previously, people use the word "empathy" in many ways. Research finds that only perspective taking (cognitive empathy) and compassion / empathic concern (emotional empathy) are beneficial for others and oneself. Emotion contagion, personal distress, self-in-other perspective taking can be potentially harmful.¹⁷

Can empathy be learned?

Some people are born with more empathic tendencies than others; there is a genetic component to empathy.¹⁸ But *all of us* are born with the capacity for empathy. It's like a muscle. Some of us have more natural empathic capacity than others. But all of us have muscles that get stronger with exercise and practice. Empathy can be taught and learned, even for those of us who didn't win the genetic lottery of being naturally more empathic.¹⁹

Like most skills, empathy is teachable and learnable and this is most likely to occur through social interactions and relationships (See: *The power of culturally responsive pedagogy*, on page 13). But empathic growth is most likely if we are willing to grow and believe that is possible.²⁰ Having a *growth mindset*, which is a willingness and motivation to change, pays off in terms of growing one's empathy.²¹

There are many effective, evidence-based, strategies that educators can use when teaching empathy directly, or when integrating it into their lessons on other topics.²² These will be discussed in the next section. Empathy-building strategies are likely to be most effective when used in conjunction with *empathic design processes*,²³ which involve focusing on how different stakeholders in the learning will be affected by and respond to the educational materials.

The first step in empathic design is identifying who is involved in the educational experience. Within both formal and informal educational settings, students are the primary stakeholder. But informal educational settings like museums and zoos also need to consider other stakeholders, such as zoo staff and K-12 teachers or other staff/chaperones who are bringing their students to the zoo (See: *A culturally responsive approach to empathic inter-connections*, on page 14).

In the first stage (Empathize), program designers learn about the stakeholders and what they may need and want from the program. They may also collect data from potential stakeholders. This doesn't need to be formal research, but can involve observing or listening to and recording thoughts, feelings, and experiences from each relevant group. Next, in the Define stage, program designers try to use that information to determine the most important needs and issues that they will try to address. The next stage is a brainstorming stage (Ideate), where designers try to come up with ideas about how they might address those needs or solve those problems. Next, they come up with some sample Prototypes or working tools that they can then Test and make changes to, based on continued user feedback. They can continue this process as much as needed to create a user-centered program.

Using empathic design processes can help to make any type of educational program more effective. In the case of programs designed to build empathy, the match between the process and program content are likely even more important.

Ten Effective Practices for Increasing Empathy for Animals

The next pages will share 10 scientifically-based empathy-building practices. The majority of research is focused on how to increase empathy for humans. But there are emerging studies on how to increase empathy for wildlife and the environment more broadly.²⁴ I integrate this literature, and also adapt the empathy-for-humans research to wildlife.

Don't forget that ***empathy is for action***. Each of these practices can help to increase empathy, which motivates prosocial actions on behalf of others, including animals.

Table 1. Summary of Ten Effective Practices for Increasing Empathy for Animals

1. The importance of self-compassion
2. Remember that you are a role model of empathy
3. Remind students of their important values
4. Increase familiarity and comfort with the animal
5. Highlight similarity between students and the animal
6. Focus on the animal's vulnerabilities and needs
7. Mimic the animal's bodily and facial expressions
8. Treat animals as unique individuals, with names and stories
9. Teach children to notice, listen, and deeply observe
10. Encourage children to use their imaginations to fill in the gaps

1. The importance of self-compassion

Both teachers and students need to be in the right mindset to empathize with others. Those who are more aware of their own current states and triggers will be more able to empathize with others,²⁵ whether these others are humans or animals.

It is difficult for people to empathize if they are tired, hungry, angry, or stressed.²⁶ These temporary states are overpowering personal needs, and get in the way of focusing on others' needs. Make

sure these basic needs are taken care of in yourself before trying to be empathic or teaching empathy-building practices.

It's also helpful for people to be aware of their own personal triggers and biases that shut down their empathy response. These triggers and biases can have different origins, and can be influenced by our family or cultural experiences, including our experiences of privilege or scarcity (see **Ten key cultural factors and their relevance to empathy**, on **Page 16**). Some people admire self-sufficiency and independence in others ("pull yourself up by your bootstraps"), and find it difficult to empathize with people who appear to be helpless or needy. Other people can't tolerate aggressive, insubordinate, or inappropriate behaviors, yet teachers should try to understand the root causes of such behaviors in their students. Some people don't like it when others are emotionally closed off, and take it personally or feel rejected. On the flip side, some people find it overwhelming when others freely express emotions, especially negative emotions, preferring a more stoic approach. It's important that we pay attention to our own personal triggers and biases, so we can get past our preferences to show others' kindness and understanding.

Not everyone has high self-awareness, but like empathy, this too can be learned. Research has found that mindfulness meditation can be helpful to build empathy,²⁷ possibly because it helps people become aware of their own internal states, whether these are temporary needs or behavioral triggers. For those with available resources, longer-term approaches such as therapy or targeted empathy-building programs for educators (such as FuelEd in Houston, Texas²⁸) can also be beneficial. However, there are other ways to become more self-aware that do not cost money, such as writing in a journal or engaging in deep, authentic friendships. There are many paths to help better understand not just our triggers and biases themselves, but the deeper origins of them.

2. Remember that you are a role model of empathy

School teachers and zoo staff are role models of empathy, both in their actions toward the children and in how they treat animals. Research finds that people are more likely to behave prosocially in the presence of prosocial role models.²⁹ This has a scientific basis in social learning theory.³⁰

First, *when interacting with children*, educators should be aware of their important role as secure attachment figures. The attachment system is rooted in our earliest interactions with our primary caregivers. It functions to help people feel safe, calm, loved, and able to handle life's difficulties. Some research suggests that attachment security helps people to reduce personal distress feelings when exposed to others' distress, so they can feel compassion for and help others.³¹ Not all children come from loving homes, so it's important for teachers to be a positive attachment figure to children to help support their learning and empathic growth.

Research finds that children learn better when they think their teachers care, and this translates to better academic outcomes.³² Students are also better able to focus, and have more regulated behaviors in the classroom. For example, when researchers examined over 100 different studies, they found that there were 31% less behavioral problems in classes with more relationship-oriented teachers.³³ One remarkable study found that after a brief online empathy training program, teachers who received the training were 50% less likely to suspend their students that year.³⁴

Currently most of the research on the implications of empathy in education is focused on formal, K-12 settings. Yet, many informal education settings exist, such as those in museums and zoos, and empathy is likely important in these as well. There may be additional challenges due to the short-term nature of those interactions, but even in emergency room doctors, patients say that

the most important way to show empathy is to let them know: “*I’m here, I’m yours.*”³⁵ It is possible to connect with children even during a one-time educational visit.

When *interacting with the animals*, zoo staff should be aware that children are noticing how they treat the animals. Zoo educators should directly share their personal feelings and relationship with individual animals, and also model caring and empathic behaviors toward the animal they are interacting with.³⁶ For example, they can notice how the animal is feeling, use pronouns and call him or her by name, call the animal their friend, and treat the animal in a way to make him or her feel comfortable and safe. For zoo animals, this would mean sensitivity to his or her comfort with human touch.

3. Remind students of what’s important to them

Self-affirmation involves thinking about values that are important to the self. For example, these values may include being caring, being good at art, being creative, being independent, belonging to a social group, relationships with friends or family, or religious values.³⁷ Research finds that when people are asked to focus on their most important values, they feel less anxious and are more compassionate and willing to help.³⁸ Our recent research finds that the #1 value people choose is compassion.³⁹ Since many students will already believe that caring for other people and animals is important, including a short reminder at the beginning of the lesson could help students become more engaged in the content that is presented. But it’s important that this comes from their own values. Imposing our own values on students could backfire and create resistance to learning.⁴⁰

4. Increase familiarity and comfort with the animal

Research finds that having previous experience with the recipient of empathy can make people more likely to empathize.⁴¹ It is easy to have empathy for similar others (see #5, below). But we can also have empathy for others who are different. Dozens of studies have found that *intergroup contact*—spending time interacting with people who are different than us—leads to lower prejudice and higher empathy for them.⁴² This is because more familiarity increases our knowledge about others and reduce our anxiety.

The lessons of intergroup contact theory can apply to expanding empathy for wildlife. Intergroup contact theory suggests that we need to spend time regularly engaging in genuine and positive interactions with wildlife in order to understand and care for the wide array of species. This will come through one-on-one relationships, and building trust, safety, and rituals around positive and respectful interactions with wildlife. Any relationship takes time, and because of this, longer term programs will be likely be more fruitful than shorter term ones.

Not everyone has equal access and opportunities to interact with wildlife, through no fault of their own. That doesn’t mean that they don’t have increased empathy, since there are many paths to increasing empathy. But that does increase the importance of offering educational experiences through zoo programming. Virtual educational experiences can increase access even further for schools that cannot attend such experiences in person.

In order for intergroup contact to be most effective at building empathy, educators should focus on modeling equal status or value between the groups, highlighting a set of common goals (e.g. surviving and adapting to climate change), minimizing competition for resources between groups, and an authority figure (such as a teacher or zoo staff) promoting such contact.⁴³

5. Highlight similarity between students and the animal

Research finds that people are more likely to empathize with others who they see as similar to themselves, or included in their ingroup.⁴⁴ Although people can and do empathize with animals, when choosing between empathizing for humans versus animals, they prefer directing their empathy toward humans.⁴⁵ In addition, people feel the most empathy for (and are most likely to help) the animal species that are most genetically related and similar to humans: primates, then other mammals, then birds, amphibians, reptiles, fish, and insects.⁴⁶ This poses challenges for conservation efforts for less similar wildlife species.

Luckily, the boundaries of who is similar or included are easy to change. When trying to increase empathy for humans or other animals, it's important to focus on a variety of similarities: physical attributes (e.g. eyes, nose, limbs, etc), physical needs (food, air, water, shelter), experiences, and psychological needs and responses (need for caregiving, safety, feelings of fear, comfort, etc).⁴⁷

For a basic building block of empathy, we need to know what we have in common with animals, and focus on similarities. But more advanced, cognitive, forms of empathy such as perspective taking focus on how we are different, understand and respect that difference, and learn how to sensitively engage with it. It's important to avoid projection of oneself onto others. When we do this to animals, it's a form of anthropomorphism, and it ultimately is a barrier to truly understanding them, *from their perspective*. But note that young children would likely find this challenging (see **Developmental Appropriateness**, on **Page 13**).

Recall that empathy is not putting yourself into someone else's shoes. Rather than thinking about how you would react in others' situations, think about what situations look like from their perspective. Ultimately, there is a role for knowledge gathering and education—both hands on experiences with animals, but also learning factual information about the animal's history, biology, and life cycle. This knowledge can help break down the illusory wall that people see between “us” and “them.”

6. Focus on the animal's vulnerabilities and needs

Even though similarity can help to increase empathy for people and animals, a more powerful empathy-builder is focusing on the animals' vulnerabilities and needs. This makes people want to take care of and nurture the animal. As an example, researchers have compared how participants respond to someone who is very similar to them (another student who was injured), versus an injured child or puppy. They found that participants felt the least empathic concern for the other student—who was most similar to them. This is because they saw a higher need in the child and puppy: more vulnerability and more need for nurturing.⁴⁸ Other research confirms that people have similar levels of empathy for human babies and puppies, showing again that nurturance is more important than similarity.⁴⁹ Empathy is activated through such caregiving responses. This is confirmed by other research finding that such nurturance motivations increase with the strength of the need signal, for example, if it is louder, closer, more realistic, and so on.⁵⁰ In addition, cuteness in itself activates caregiving responses from people,⁵¹ and people feel more empathy for cuter animals.⁵² This presents some challenges for animals that are rated as less cute. However, one way to address this is to work with younger animals when possible, and/or to highlight the ways that animals are in need and vulnerable, using specific examples, to help people to feel more compassion for them.

7. Mimic the animal's body and facial expressions

Mimicry is a simple and effective way to help increase empathy.⁵³ Research finds that when two people mimic each other, they create a bond and connection with one another, and feel more empathy. This widely documented “chameleon effect” is a powerful method of inducing connection and empathy.⁵⁴ Importantly, these effects are also seen in virtual interactions.⁵⁵

Mimicry does not have to be mutual mirroring to increase empathy. It can affect the empathic feelings of the person who is mimicking the face or bodily movements of another.⁵⁶ Thus, effective empathy teaching within a zoo context, whether in person or virtual, should have students try to mimic wildlife in various ways – this could be done expressively through dance, through live interactions where they try to match the creatures in their movements and rhythms, or through instructions to pretend to move like the animal, though I suspect that live imitation would be more effective than other types.

Here it is important to be aware of cultural considerations. Some behaviors are not acceptable in all cultures, for example, asking children to imitate a snake sticking out her tongue might be seen as inappropriate in some instances. Rather than requiring children to imitate, a more culturally sensitive practice would be to ask them what they notice the animal doing, and give them the option to show you what the animal is doing if they want.

With more than one animal present, students could carefully observe how animals catch each others' emotions, looking for examples of motor mimicry. Observing the different ways that animals express empathy could help students to understand them better, and they will likely also unconsciously mimic the animals' emotional states.

Whenever possible, try to keep mimicry activities focused on positive emotional states and behaviors of animals. Make sure these activities are fun, light, and playful. In the event that students encounter distressed, bored, or sick animals, they may start to emotionally mirror these states, which could backfire and make them want to avoid the negative feelings. In these cases, shifting students away from mirroring (emotion contagion) and into more developed forms of empathy like compassion (through #6: focusing on animals' needs) or perspective taking (see #10) will help them to regulate their emotions.

8. Treat animals as unique individuals, with names and stories

Research has found that people find it difficult to feel empathy for large groups, and find it easier to feel empathy for single identified victims.⁵⁷ Because of this, it's important to discuss individual animals in terms of their specific needs, preferences, and experiences. This can help to promote compassion for this one specific animal, which can then be generalized to other animals in that species.

Storytelling is a powerful way to help increase empathic concern. Lots of research shows that narratives in many forms—whether written or verbal—can help to promote empathy,⁵⁸ including empathy for animals.⁵⁹ Narratives are powerful, and transcend technological modes: research confirms that stories can effectively increase empathy even when delivered digitally.⁶⁰ Because of this, sharing personal stories about the animal can further increase empathic responses to it, regardless of whether this is done during in person or virtual animal encounters. It is likely that the type of storytelling matters: stories that focus on the sentience of animals such as those common within indigenous cultures are likely to be especially effective.⁶¹

9. Teach children to notice, listen, and deeply observe

Active listening is one of the most powerful ways to increase empathy for other humans.⁶² This involves listening in order to understand the others' perspective and experience—without judgment. With animals, we can train ourselves to observe them closely and respectfully without judgment or interference, as a way to better understand them. Teaching students that animals are worthy of our focused time and attention can help to promote increasingly complex forms of empathy for them.

10. Encourage children to use their imaginations to fill in the gaps

The most widely used method of increasing empathic concern (compassion) is to directly encourage people to imagine the perspective of others. Yet most of the research on this topic has had adult participants. This makes sense, because perspective taking is an advanced form of empathy that doesn't fully develop until adolescence. Programs for young children should be aware of how to effectively use this tool. Other strategies, such as the first nine on this list, may be more effective in younger learners.

Still, when working with wildlife species that are easier to empathize with (e.g. those that are similar to us, or very cute), using perspective taking instructions could help children move from the easier and simpler forms of emotional empathy, to more complex, cognitive forms of it. Simple forms of perspective taking can be elicited by asking simple questions, such as: What do you think this animal wants right now? What is she feeling? Does she feel good or bad?

More complex perspective taking instructions will likely be more effective in adolescence and beyond. The PVENT system from Fuel Ed⁶³ is a helpful way to teach more advanced perspective taking skills. PVENT stands for: Problems, Values, Emotions, Needs, Thoughts. When encountering a person or animal, people can ask the following questions:

- What challenge or difficulty are they currently facing?
- What is important to them? What might be some things that they value?
- What underlying emotion is beneath their behaviors, words, or actions?
- What underlying need is beneath their behaviors, words, or actions?
- What thoughts might be running through their mind right now?

Of course, there are limitations to perspective taking, namely, that we often have no real clue what other humans—much less animals—could be thinking or feeling. At its best, perspective taking relies on educated guesses, which can lead to *perspective-mistaking*.⁶⁴ Research finds that active listening and deep observation (#9 on this list) are better than perspective taking because they allow people to be 'empathy detectives,' who look for clues and evidence, rather than just guessing. Ideally, the two would work together, with perspective taking filling in missing information to deepen one's understanding of others.

Another way to fill in the gaps of perspective taking is through engagement with literature and the arts.⁶⁵ There is a large body of research that supports how engaging with different types of arts can help to build empathy. Reading literature and taking acting lessons both seem to be especially effective. This may be because both of them allow individuals to experience others' lives and experiences from a different perspective than their own. Music also helps to encourage empathy, likely because many forms of music are social and dependent on reading social cues. Thus, educating for empathy should consider integrating arts experiences within the curriculum.

Can empathy be taught virtually? Opportunities and challenges

It is not always possible or desirable to teach empathy in face-to-face settings, like classrooms. Empathy can be taught in many different environments, including virtually. Educators have been using digital technology to teach for many years, and they relied on it extensively during the covid-19 pandemic. This section will review some opportunities and challenges of teaching empathy virtually.

First, some myth busting – research finds that it is indeed possible to empathize virtually, and that in fact, preteens who are more active in social media grow more in their empathy over time

compared to less active teens.⁶⁶ Digital connections matter and can promote positive relationships.

But there are some challenges associated with virtual social interactions, many of which we are familiar with due to long-term virtual socialization during the pandemic:

- **Anonymous** interactions can lead to less positive behaviors. It is better to bring whole self to the digital encounter (e.g. use real names, camera on). Bringing one's whole self is also aligned with culturally responsive pedagogy.
- **Passive** digital social engagement is less beneficial than more active engagement.⁶⁷ Students should be active participants in the learning experience.
- **Impersonal** interactions make learning more difficult than direct social engagement. Ideally, virtual programs should include a peer-to-peer aspect (e.g. breakout group, working in pairs, etc). Social connection is critical for deep learning.⁶⁸
- **Multitasking** is a temptation when online, but research finds that this is detrimental for learning. It is critical to design fun, interactive, and immersive experiences that stimulate curiosity and draw in learners.
- **Unequal access** has been evident during the pandemic in terms of who has access to reliable internet connections, quality digital devices, quiet and comfortable working spaces, privacy, etc. Virtual interventions should consider how to reach groups with limited resources.

Despite these challenges, empathy can successfully be taught using digital technology, including via films, live video training, smartphones (e.g. text messages, apps), and virtual reality.⁶⁹ Zoos have used virtual technologies to help understand and support children's learning,⁷⁰ finding that they can be just as effective as in person encounters.⁷¹ Digital technologies have also been effectively used to teach empathy for animals,⁷² although they may not be as effective as live encounters. For example, one study found that a live encounter with a polar bear increased empathy and conservation beliefs more than a video about the bear.⁷³ However, the study did not include a live interactive video, which is a promising future direction.

One study found two key takeaways to increase empathy for animals during a videotaped presentation.⁷⁴ First, viewers feel more empathy for an animal (armadillo) if the handler gives him or her choice during the interaction. This is an example of the effective use of role modeling in encouraging empathy in observers. Second, viewers feel more empathy for the animal when the handler uses key empathy-building strategies (e.g. using the animal's name, telling a story, encouraging perspective taking). Research should continue to test effective strategies for increasing empathy for animals.

How empathic design principles can help to overcome these challenges

Recall that empathic design principles involve an iterative process that listens to and observes stakeholders (e.g. students, diverse community members), captures data, reflects and analyzes on that data, brainstorms for solutions, and design prototypes for solutions. Taking stakeholder feedback into account greatly improves the user experience of the product or experience. When adapting in-person tools and materials to virtual interactions, take time to first listen to users, make changes, and do small scale pilot testing or focus groups, before launching the larger project.

Involving and representing all stakeholders will be critical in the process of creating a culturally responsive program. For example, beyond involving students themselves, community members such as teachers and parents could likely provide an important cultural context in design choices.

An empathic design will also consider how to reconcile issues related to unequal digital access and working spaces with the reality of video-based virtual interactions. This will likely take some creativity and additional resources, but should be thoughtfully addressed.

Finally, an empathic design will capitalize on the power of empathic inter-connections across all learning roles (see next section for details).

PART 2: INFUSING CULTURALLY RESPONSIVE PEDAGOGY

The power of culturally responsive pedagogy

Culture involves more than nationality—it also involves several different aspects of identity, ranging from language, to race and ethnicity, to gender, to socioeconomic status, to religion / spirituality, among others. Beyond personal identity, family characteristics, school characteristics, neighborhood characteristics, and broader political and economic factors are also important contextual factors in developing empathy.

This literature review is guided by and integrated within culturally-responsive pedagogy frameworks.⁷⁵ Culturally responsive pedagogy is important because educators can be more effective if they understand the whole child, and create flexible and creative lessons that invite children from a variety of backgrounds and perspectives to join in. Learning is more likely to occur when students (and educators) feel calm and safe. Culturally responsive frameworks are fundamentally empathic in their nature – they are student-focused, kind, and accepting.

Culturally responsive pedagogy has a number of core features and practices.⁷⁶ These include:

- **Identity and Achievement**, in which attention is paid to identity development, cultural heritages, multiple perspectives, affirmations of diversity, and public validation of home-community cultures. Teachers and students both bring cultural identities into the educational settings, and these should be embraced as strengths that contribute to a vibrant and rich educational environment.
- **Equity and Excellence**, which includes dispositions, multicultural curriculum, equal access, and high expectations for all. Equity means giving students what they need, which is an empathic and responsive approach. It does not mean treating students as if they are identical. Tuning in to individual student needs is an effective teaching practice and leads to increased motivation and learning in students.
- **Teaching the Whole Child**, which includes skill development in the cultural context, bridging home, school, and community, including a variety of learning outcomes, creating a supportive learning community, and empowering students.
- **Student-Teacher Relationships**, which includes caring interactions in the context of relationships with children, and creating a positive and safe classroom atmosphere for all. Recall that empathic teachers can have a powerful effect on student learning outcomes (See *Practice #2: Be a role model*). This is especially important within culturally diverse classrooms.⁷⁷
- **Developmental appropriateness** includes student learning styles, teaching styles, and cultural variation in psychological needs such as motivation, morale, engagement, and collaboration. It's important for teachers to be aware of where children are in terms of their cognitive and socioemotional development. Teachers should realize that stages of development are not only based on age, but also on life experiences. Having a familiarity with how children develop empathy can be helpful in teaching it. In general, there are stages of empathy that develop over time, with babies showing emotional contagion and motor mimicry very early on, young children showing compassion and concern for others, and more cognitively complex perspective taking possible by adolescence.⁷⁸

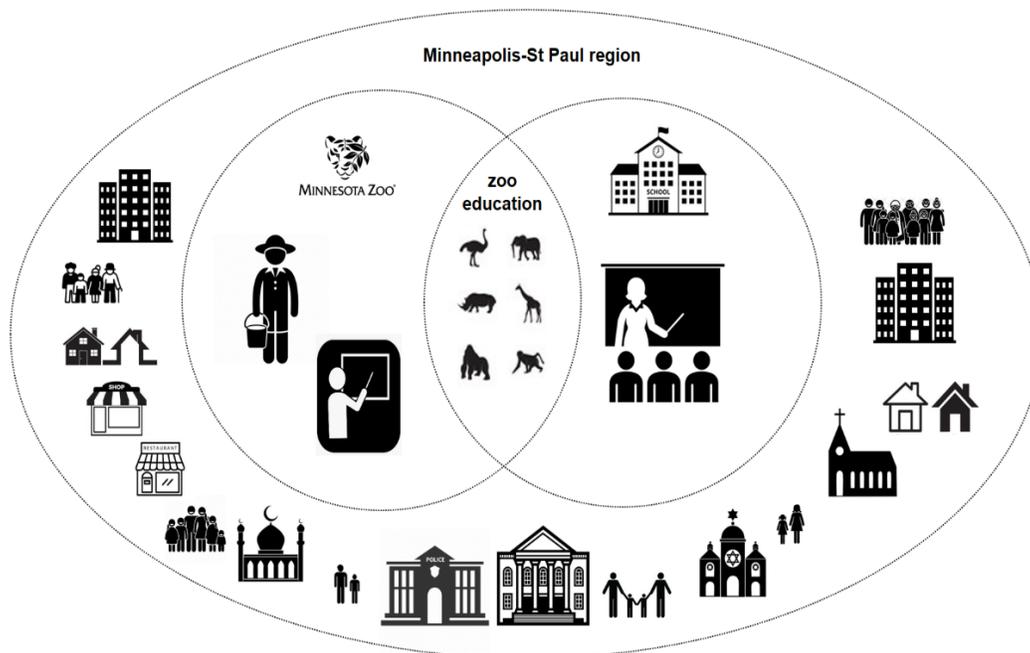
In his book *Empathy and Moral Development*, Hoffman proposed four key stages of empathy development.⁷⁹ Although he describes the process unfolding from infancy to adolescence, adults also often demonstrate the spectrum of empathy from less mature to more mature. These stages of development are similar for animal-directed empathy.⁸⁰

- 1) **Global empathy**, in which infants have difficulty understanding the boundaries between their own and others' emotions, and can experience emotion contagion and personal distress responses (see *Page 3*).
- 2) **Egocentric empathy**, in which toddlers can start to distinguish between their own and others' emotions, and feel empathic concern and try to help. But they often help in a way that would comfort themselves, rather than others.
- 3) **Empathy for another's feelings**, which can begin in preschool, and involves understanding a wider range of emotions and responding in more other-oriented appropriate ways.
- 4) **Empathy for another's life condition**, which often begins in late childhood, and doesn't require another person to be immediately in front of them in distress. It is based on a more differentiated understanding of the self and others in society, and involves a more cognitive understanding of factors that affect the suffering of people or groups.

Cultural factors help to socialize children about who should be included in one's circle of compassion. For example, five year old children believe that parents, friends, and strangers are equally obligated to help a child who falls down. But as children age, they continue to prioritize parents helping, but are less likely to feel that friends should help, and strangers even less. In other words, they become more selective about who should be included in one's generosity. However, this depends on culture, with some countries socializing *increased* circles of compassion in children as they age.⁸¹ The next section will give more examples of how cultural factors may affect empathy.

A culturally responsive approach to empathic inter-connections

Relational models of learning (such as culturally responsive pedagogy) emphasize authentic and caring connections between individuals in various learning roles. In zoo educational environments, these roles include zoo staff members, teachers, students, and the animals themselves. A culturally responsive approach to teaching empathy for wildlife also considers the broader context of students' lives, including their personal identity, family characteristics, school characteristics, neighborhood characteristics, and the broader community (see Figure).



It's important to consider empathic *inter-connections* between different groups who are active during zoo-related educational activities, including ones designed to increase empathy for wildlife. After briefly reviewing each of these connections, I will next review key cultural variables that are relevant to empathy, and should be considered when designing culturally responsive empathy-building programs.

The importance of empathy between...

Students and wildlife	Research finds that empathizing with animals is more difficult for people than empathizing with other people. ⁸² But empathy for both humans and animals is correlated in children, ⁸³ and develops in the same way over time. ⁸⁴ There is much research finding that interacting with animals can help to increase empathy, and ongoing projects through ACE for Wildlife are at the cutting edge of how to design effective interventions and how to measure empathy for wildlife (See https://www.aceforwildlife.org). This report builds on ACE's foundational work.
Teachers and students	It's not possible to teach children empathy without also modeling it. As summarized in Part 1, much research has found that teacher empathy can have powerful effects on student motivation and learning. ⁸⁵ For example, brief empathy training in teachers can reduce suspension rates—especially among the highest risk students. ⁸⁶
Zoo staff and students	Similarly, although there is limited research specifically examining the role of zoo staff, they are important models of empathy in both what they say and what they do. Research finds that both words and actions are important in motivating kindness in youth. ⁸⁷
Students and students	Research finds that students often learn better together, ⁸⁸ including in virtual settings. ⁸⁹ Positive and empathic peer interactions are important and should ideally be integrated into empathy interventions.
Wildlife and wildlife	As reviewed in my keynote at the ACE for Wildlife symposium in Feb 2020, there is much research demonstrating that most forms of wildlife are capable of some types of empathy. ⁹⁰ Empathy for wildlife programs could highlight examples of this in their zoo animals, pointing out similarities to, and differences from, human forms of empathy.
Zoo staff and wildlife	Zoo staff have specialized knowledge about the unique needs of zoo animals, which is a form of cognitive empathy in itself. This knowledge, along with gentle and caring responses toward the animal, can directly model empathy for wildlife. Empathy education programs would likely be more powerful if zoo staff directly labeled their knowledge and actions as empathic, so students could see empathy in action.
Teachers and wildlife	Schoolteachers may not necessarily have specialized wildlife knowledge, but they do have ongoing relationships with students that could be integrated into classroom activities and exercises before and after the zoo education activity. Having teachers model empathy for wildlife in some form could motivate higher student engagement.
Teachers and zoo staff	Schoolteachers often juggle a number of seemingly conflicting demands that make supplementary learning activities challenging. Zoo staff can help by connecting zoo education activities to common core standards, for example.

Overall, educational interventions will be more effective if empathy is holistically infused as a guiding principle in all aspects of the intervention design, rather than just focusing on increasing students' empathy for wildlife.

Literature review: Ten key cultural factors and their relevance to empathy

The next section reviews key cultural factors and what research has found about their relevance to empathy. It then examines how this cultural factor may be relevant to empathy for animals, specifically. Knowing how these factors may affect empathy can help educators to be more effective in their teaching.

Table 2. Summary of Ten Cultural Factors Relevant to Empathy

Country and region: People in some regions are more likely to value empathy and compassion, including for animals.
Language: Language may influence emotional communication style, and multilingual people may be more empathic than unilingual people.
Race / Ethnicity: People tend to have more empathy for others of the same race/ethnicity, but this racial ingroup bias can be overcome with empathy training.
Gender: Girls and women self-report higher empathy, including empathy for animals. However, on more objective measures of empathy, gender differences are smaller or absent.
Socioeconomic status: Empathy is higher in individuals from less privileged socioeconomic backgrounds.
Religion: Compassion is valued in many religion traditions, but religion is sometimes associated with more empathy, and sometimes associated with less.
Family socialization: Parents, siblings, and pets are all important influences on children’s empathic development.
School and neighborhood characteristics: More positive school and neighborhood cultures are associated with more empathy and prosocial behavior in children and teens.
Media influences: Media can be a powerful force in socializing empathy and prosocial behavior.
Political and economic factors: People from different political ideologies apply empathy to smaller versus wider circles of compassion, and economic shocks can increase prosocial attitudes.

1. Country and region

Many American classrooms have children from other countries (immigrants) or children whose parents are from other countries (first generation immigrants). Many immigrants experience prejudice, but empathy helps to reduce anti-immigrant attitudes in American teens.⁹¹ This in itself is a reason to help promote empathy within young Americans.

Do people from different countries tend to have different levels of empathy? Although empathy is a human universal, nationality also seems to matter in its development. The largest known study on empathy across cultures examined levels of cognitive and emotional empathy across 63 nations worldwide, and factors that were associated with it.⁹²

<i>Most empathic countries</i>	<i>Region</i>
1. Ecuador	South/Central America
2. Saudi Arabia	Middle East
3. Peru	South/Central America
4. Denmark	Northern Europe
5. United Arab Emirates	Middle East
6. Korea	East Asia
7. United States	North America
8. Taiwan	East Asia
9. Costa Rica	South/Central America

10. Kuwait	Middle East
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As can be seen in the table, the most empathic countries in the world were in South/Central America, the Middle East, and East Asia. Thus, empathy was higher in regions that are more collectivistic (less individualistic). Empathy was also higher in countries that have people with more easygoing personalities and people who are more comfortable with emotions.

As children age, they become more selective about who should be included in one's generosity. But this depends upon culture, and is stronger in more individualistic nations like the United States and Germany. Uganda shows a different pattern though: as children age there, there is an *increasing* tendency to believe that parents, friends, and strangers should help. This shows an increasing circle of compassion in Ugandan children as they age.⁹³

Within the United States, there are also regional differences in empathy.⁹⁴ As can be seen in the table, the most empathic states are distributed throughout the US. (Minnesota is ranked #11.)

<i>Most empathic states</i>	<i>Region</i>
1. Rhode Island	Northeast
2. Montana	West
3. Vermont	Northeast
4. Maine	Northeast
5. Oregon	West
6. Washington, DC	South
7. Illinois	Midwest
8. North Carolina	South
9. Utah	West
10. California	West

Empathy for animals across cultures. There are also likely differences in empathy for animals across cultures,⁹⁵ although there is less scientific data on this topic. Until more research is done, it may be helpful to understand cultural differences in empathy toward humans. This at least indicates whether there is an openness to empathy within that cultural space, which could be relevant to empathy toward animals by increasing circles of compassion outside of human boundaries.

Within the United States, there are regional differences in attitudes toward animals. For example, those growing in up more rural areas have less positive attitudes toward animals.⁹⁶

2. Language

There is very little research on how specific languages might be related to empathy. Although there is no research specifically on empathy, it is likely that bicultural individuals would match their native culture's appropriate empathy style when speaking that language. Children from multilingual families might have different emotional responses and empathic understanding compared to those from unilingual families.⁹⁷

Some research on learning a second language is more relevant to empathy. This research finds that more empathic people are better at learning and pronouncing a new language.⁹⁸ In addition, people who learn more than two languages score higher on cognitive empathy than others.⁹⁹ This research suggests that the effort it takes to attempt to learn another language may help to grow people's empathy. Or perhaps more empathic people are more willing to put in the effort to learn a new language.

Given the multicultural nature of many American classrooms, it's important to take steps to help make educational experiences more inclusive such as using hands on activities, using songs and flashcards, repeating ideas, and showing curiosity about the children's other language.

There is no known research on how language may impact empathy for animals, however, nations are linked to languages, so the research on national differences in empathy may apply.

3. Race / ethnicity

Research finds that people tend to feel more empathy for people of the same race/ethnicity, compared to people from different race/ethnicity groups.¹⁰⁰ Within educational contexts, it is important to be aware of these dynamics, and ensure that instructors are equitably focusing on students of all backgrounds in their classroom.

Racial ingroup bias is culturally learned, and is possible to change. Empathy can help to support inclusion, diversity, equity, and access (IDEA) by helping to overcome prejudice, bias, and discrimination toward a number of groups, including race / ethnicity.¹⁰¹

Empathy can also help to reduce hierarchical thinking—seeing oneself or one's group as superior than others is at the heart of low empathy for humans *and* wildlife.¹⁰² Indeed, research finds that people who are more racially prejudiced are also more likely to believe that animals are inferior to humans.¹⁰³

However, sometimes reminding people to “imagine others’ perspectives” (cognitive empathy) can backfire within live social interactions between people of different racial/ethnic backgrounds.¹⁰⁴ That's because majority-group individuals may imagine that minority-group interaction partners have negative views about their group. If so, this can make interactions awkward and unpleasant for both parties.

Some other effective empathy-building practices may be helpful in the context of intergroup interactions though. For example, increasing active and reflective listening and observation skills, and helping students see commonalities between themselves and others might help to bridge gaps that are not easily bridged through perspective taking alone. In other words, there are many pathways to empathic outcomes, beyond perspective taking.

4. Gender

Most studies on gender differences in empathy find that girls and women score higher, and men and boys score lower.¹⁰⁵ Yet, other research finds that these results are not so simple, and may be explained by strong social norms related to gender roles that encourage girls and women into more caregiving and nurturing roles.¹⁰⁶ For example, on self-report measures of empathy, there are strong gender differences, but those gender differences are smaller or absent on other types of measures (e.g. physiological responses to others in distress).¹⁰⁷ In addition, gender differences in empathy disappear when participants are offered incentives to perform better on empathy tests.¹⁰⁸ Both of these findings suggest that we shouldn't assume that girls and women are naturally more empathic than boys and men. There is currently limited research on empathy among people with non-binary genders.¹⁰⁹

Research on gender and *animal attitudes* finds that girls and women score higher on environmentalism, attitudes toward animals, compassion for them, and caring behavior.¹¹⁰ Yet, this research has so far been based on self-report measures, so gender role expectations could also matter. In potential support of this, when it comes to sex roles, people who see themselves

as having more stereotypically feminine traits, regardless of biological sex, also have more positive attitudes toward animals.¹¹¹

Interestingly, research on the personalities of animals themselves finds no sex differences.¹¹² But because of strong gender stereotypes, it is possible that educators and zoo handlers will perceive sex differences in the animals they are handling, thus inappropriately spreading stereotypes. Although it is good practice to use gender pronouns and names for animals to help children empathize with them, it is important to be aware of potential gender bias in treating and communicating about animals.

In the classroom, as with other cultural variables, it's also important to note that gender socialization also affects both who will choose to speak up and who will be chosen to speak. Instructors should be aware of these dynamics.

5. Socioeconomic status

Research finds that people from less privileged socioeconomic backgrounds (e.g. lower income, less education) are more likely to feel compassion for others, and are also more likely to engage in prosocial behaviors like helping, sharing, and giving, compared to those from more privileged backgrounds.¹¹³ People from economically disadvantaged backgrounds face a number of extra challenges in their daily lives, and one adaptive response to such challenges is to “tend-and-befriend”—to prioritize close and mutually supportive relationships with others.¹¹⁴

New research also finds that people who have experienced past adversity are more likely to feel compassion for and help others in need.¹¹⁵ Most people can only feel empathy for a single individual at a time. But people who have experienced past adversity are more able to feel empathy for groups. Thus, experiencing adversity can help to expand our circles of compassion.¹¹⁶

Educators may make assumptions about their students who are experiencing poverty or other forms of adversity. However, this research suggests that these students may be bringing in socioemotional assets into the learning environment. Instructors should welcome these assets and encourage the whole child to be present in the classroom.

In terms of empathy *for animals*, a national survey of Americans found that people with less education and lower incomes had more pro-environment and pro-animal attitudes.¹¹⁷ Yet another study found that socioeconomic status was unrelated to attitudes toward animals, compassion for them, or caring behaviors.¹¹⁸ More research is needed to better understand how socioeconomic status is related to empathy for animals.

6. Religion

Empathy (compassion) is important in the writing and teachings of many religious traditions (e.g. Christianity, Judaism, Islam, Buddhism, Hinduism, Jainism), and yet more religious people are not necessarily more compassionate. Rather than religious identification specifically, empathy is instead related to the *reasons* that people participate in religion (for intrinsic reasons),¹¹⁹ their *interpretation* of it (as symbolic),¹²⁰ and their *images of God* (as loving and kind).¹²¹ Empathy is also important in many secular / philosophical beliefs, for example, secular humanism. Given that there are large generational declines in religious participation in the US,¹²² educators should be aware that that many children will not come from religious homes. But they are still likely to be empathic.¹²³

How might religion be related to empathy *for animals*? Judaism, Christianity, and Islam promote empathy and compassion toward humans, but also at times may encourage the belief that we are superior to other animals.¹²⁴ This might justify the use of animals for various purposes. Indeed, research finds that those who attend church more often are more likely to hold dominance beliefs about animals and care less about farm animal welfare,¹²⁵ suggesting a socializing role of religious communities.

However, several religions extend compassion to animals (e.g. Hinduism, Buddhism, Jainism), and there are examples within Abrahamic religions as well.¹²⁶ In addition, research finds that atheists are deeply involved in the animal rights movement in the United States.¹²⁷ Thus, it is possible to make a culturally appropriate case for having empathy for animals on the basis of a variety of faith and secular traditions.

7. Family socialization

Parents, other caregivers, siblings, and pets play a role in helping to develop empathy in children. For example, parents can encourage empathy in their children in many different ways: by having more than one caregiver participate in caregiving, enjoying their role as a parent, being comfortable with children's neediness, being responsive to their emotional expressions, developing their own empathy, and discouraging aggressive behaviors.¹²⁸

Siblings spend a significant amount of time with each other, and can also help develop each other's empathy—by learning positive conflict resolution skills and by taking care of one another when they are distressed.¹²⁹ Thus, later born children may have more developed empathic skills than first born children.¹³⁰

Pets also may help to socialize empathic tendencies in children. For example, children growing up with dogs or cats have more positive attitudes toward domesticated, wild, and farm animals and more compassion for them.¹³¹

8. School and neighborhood characteristics

School characteristics and culture may also help to promote empathy in children. For example, children and teens who feel a sense of community and identification with their school have higher empathy and more advanced moral reasoning on social dilemmas.¹³² Other research finds that teens who rate their schools more positively have higher empathy.¹³³ The most important school-related factors that are related to empathy are having positive school norms (e.g. accepting atmosphere), having positive relationships with peers and teachers, and having good educational opportunities. Educators should be aware that the school environment is important for children's empathic development, which has implications for behavioral issues in the school.

Children's neighborhood context also matters in encouraging empathy. For example, teens from more positive neighborhoods (e.g. less people moving in and out, more socially connected) are more likely to act prosocially.¹³⁴ This is because these neighborhoods have a higher sense of community, parental support, neighbors watching out for them, and more prosocial peers. Other research confirms this in elementary children, finding that those from more positive neighborhoods (whether perceived or based on objective indicators) score higher on empathy and prosocial behavior.¹³⁵

Teaching empathy for animals will likely be most effective when other surrounding contexts like schools and neighborhoods also support the value of empathy.

Some interesting research focuses on the prosocial benefits of living in racially diverse neighborhoods.¹³⁶ It finds that more racial diversity in one's immediate context promotes a broader sense of identity that includes all of humanity, and this makes people more likely to help others in need. This suggests that children from such neighborhoods may find it easier to include animals in their circles of compassion, since they already have broader circles to begin with.

9. Media influences

Lots of research finds that exposure to prosocial media can encourage empathy and prosocial behaviors like helping and sharing.¹³⁷ In addition, although many people worry about social media's effect on empathy, overall, there is a positive association between empathy and social media usage, especially among children.¹³⁸ One interesting study showed how people often use social media to share empathic messages. The authors coded 750 TikTok videos and found that the percent of empathic messages on them rose from 3% in January 2020 to 10% in March 2020, the first month of the COVID-19 pandemic. Thus, the media can at times help to encourage empathic growth in individuals.

Media often have positive depictions of animals, which can help children to form bonds with fictional animal characters. This can be especially helpful for children who otherwise have limited exposure to animals, or have been exposed to negative views about them.¹³⁹ For example, consider the lessons about empathy and compassion toward spiders and pigs in the popular children's story, *Charlotte's Web*.¹⁴⁰

Various kinds of media have been found to shift attitudes toward more care and concern for animals. For example, college students who use newspapers or magazines to learn about animals have more positive attitudes toward them.¹⁴¹ And charity campaigns and television shows that document animal cruelty lead to empathic responses among viewers, although at times this shifts into personal distress.¹⁴² Some research has effectively been using virtual reality technology to help increase empathy for wildlife and environmental concern.¹⁴³

10. Political and economic factors

Many people have strong stereotypes that liberals are more empathic than conservatives,¹⁴⁴ however, research paints a more complex picture.¹⁴⁵ On average, there are not political differences in people's *capacity* for empathy, but there are differences in who is included in their empathic concern. Liberals are more likely to apply empathy to broader groups, while conservatives are more likely to apply it to smaller groups. For example, conservatives are more likely to focus their compassion on family (vs. friends), their nation (vs. the world), and humans (vs. nonhumans).

With respect to animals, this implies that liberals may be more likely than conservatives to expand their circles of compassion to include animals, and research supports this idea. Indeed, national surveys of Americans find that more politically liberal people have more pro-environment and pro-animal attitudes, compared to more politically conservative individuals.¹⁴⁶

Especially in a time of rising political polarization, it is important to make connections to important existing values across different political groups when teaching empathy for animals. For example, conservatives may be more open to caring for wildlife when educators discuss animals in the context of their family relationships, rather than as individuals. Future research should examine how to encourage empathy for animals across the political spectrum.

Research on societal-level economic factors has found that people's empathic tendencies may be influenced by large economic shocks, like recessions or pandemics.¹⁴⁷ For example, research

has examined trends in young people's prosocial values and self-focused traits before and after the Great Recession of 2008-2009.¹⁴⁸ It finds that although there had been long term trends toward less concern for others and more self-focus (i.e. rising narcissism), these started to reverse after the recession. As with socioeconomic status within individuals, researchers believe that periods of economic challenge can encourage people to turn to others to give and receive support.

In terms of implications for empathy *for animals*, there had been long term trends toward less environmental concern before the Great Recession, but these too began to reverse after it.¹⁴⁹ This suggests that children may be more open to empathy-related messages (including toward animals) after periods of economic difficulty.

Intersectional Identities

The previous section discussed each cultural and societal variable individually, however, each child brings a number of cultural identities into the classroom, and the educators also bring their own. Culturally responsive pedagogy is aware of and welcoming of one's own and others' cultural identities. This allows for safe and comfortable spaces that encourage learning.

Educators should be aware that a child's intersectional cultural identities combines with their life experiences to create unique individuals. Issues of power, status, race, and class are important to consider, and it's also important not to make assumptions or stereotype children on the basis of them. For example, the experience of a black woman who is an only child in an English-speaking higher income African-American family is different than a black woman who has a large multigenerational family in a lower income French-speaking Congolese family. Both individuals will experience stigma and prejudice on the basis of their sex and race, but their experiences are also likely to differ in a number of ways that should be considered.

Summary and Action Steps

Empathy involves understanding and feeling compassion for others, and empathy for humans is related to empathy for animals. It is beneficial for the well-being of oneself and others, and to maintain positive and healthy relationships. There are many scientifically based ways to increase empathy, and these can be applied to nurturing empathy for animals. Although virtual teaching has some difficulties, these can be overcome through empathic design and implementation. Culturally responsive pedagogy involves understanding and accepting the whole child, and it begins with being aware of ones' own and others' cultural identities and contexts. A culturally responsive approach is child-centered and relational, focusing on how children are interconnected with others in their learning environments and community. We all have intersectional identities, and awareness of how these may help to encourage or inhibit empathic growth is important in order to support the most effective educational practice for increasing empathy for other people and for animals.

We will end with some ***activities for culturally responsive instruction***, from the journal, *Teaching Exceptional Children*.¹⁵⁰

- Acknowledge students' differences as well as their commonalities.
- Validate students' cultural identity in classroom practices and instructional materials.
- Educate students about the diversity of the world around them.
- Promote equity and mutual respect among students.
- Assess students' ability and achievement validly.
- Foster a positive interrelationship among students, their families, the community, and the school.

- Motivate students to become active participants in their learning.
- Encourage students to think critically.
- Challenge students to strive for excellence as defined by their potential.
- Assist students in becoming socially and politically conscious.

When teaching empathy for animals, we encourage instructors to consider how each of these activities can help to promote empathy for humans and nonhumans.

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PART 2

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