How Empathy Affects Learning, And How To Cultivate It In Your Students

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“The education system forces people to unlearn the empathy they were born with. It’s a system based on always seeming strong, contributing to the economy, and being number one. Being number one is the rule of game, and how we relate to others is fundamentally dismissed.” –Bernard Amadei, Ashoka Fellow and founder of Engineers Without Borders USA

More than two decades ago, scientists made a discovery that fundamentally altered the way we think about empathy. While observing monkeys, they noticed that certain brain cells responded both when a monkey performed an action and when that monkey watched another monkey perform the same
action. The same cells can be found in the human brain. These cells, called mirror neurons, fire when we see something happening to someone else that we could imagine happening to ourselves, from stubbing a toe to winning the lottery.

The discovery of mirror neurons was a significant breakthrough because it revealed that our brains have evolved in a way that enables us to recognise and understand the emotions and intentions of others not just by thinking but actually feeling. It sent ripples through a number of scientific disciplines and challenged our understanding of everything from language and philosophy to psychotherapy—and certainly of empathy. Neuroscientist Vilayanur Ramachandran has argued that these neurons allow us to learn complex social behaviors and has called them “the basis of civilization.”

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Many species display empathy in some form, including rats, and chickens, and dogs, among others. But primates, and especially humans, have a more sophisticated capacity thanks to a more developed neocortex and a huge working memory. In fact, human beings are hard wired for empathy: it’s part of what makes us deeply social animals, and distinct from other animals on the planet.

We now recognise empathy as the driving force behind much of human behavior, from social bonding and prenatal care to morality and human rights activism. Only recently, however, have we come to conceptualise empathy as a driving force for learning (and we’re not talking emotional intelligence here).

In 2012, researchers at McGill University in Montreal found a direct connection between empathy and learning capacity. Studying parent-pup interactions among rats, they discovered that certain mother rats, called
“dams,” who, in their laboratory, tended to lick and groom their pups more, especially in stressful situations, reared pups with higher IQs. The rat pups that got a little T.L.C. from mom in their first few weeks in the lab were not only more confident and less fearful than the pups who did not, but they were also better at mazes.

So there you have it—people who receive empathy from others, especially from an early age, develop a higher capacity to learn. Part of the reason for this is that empathy is an especially effective antidote to stress. In humans, stress negatively affects learning and brain development in children, mostly affecting the prefrontal cortex which manages non-cognitive skills like self-control along with memory and reasoning. Poor children, who are at greater risk of adverse childhood experiences, are disproportionately affected.

Dr. Nadine Burke Harris, who opened a clinic for poor minorities in Bayview-Hunters point in San Francisco, has studied the effects of stress on young minds.

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The idea of a secure attachment relationship, a concept that’s been around since the mid-20th century, comes into play here as well. Secure attachment in rat pups is built through grooming, but in humans it is provided by an adult (usually a parent) comforting a child during tough times.

Researchers say that in American, for example, about two-thirds of kids have a secure attachment, and one-third don’t. The two-thirds with a secure attachment are more socially competent and confident through their lives. They’re better at dealing with other people and making friends. They’re better
able to deal with setbacks. They’re more likely to be engaged in their studies. They’re more likely to graduate high school.

Empathy can help reduce the damaging effects of repeated stress in human children just like it did for the rat pups in the McGill University laboratory. This has huge implications for teacher education and training, and turns old notions of punishment and discipline on their head. And empathy isn’t just something for youth, either.

It’s a skill that can transform a community and build social capital, as we’ll see below.

**Does Empathy Really Improve Academic Performance?**

The capacity to empathise is a revered trait in most societies across the world. Empathy is considered a motivating factor for unselfish, prosocial behavior, whereas a lack of empathy is related to antisocial behavior. But empathy isn’t just about hugs and pats on the back. It is a skill that can make young people more productive in work environments that require cooperation, and in a global economy that becomes more complex with each passing day. It is what turns today’s students into future leaders.

Here are just a few cognitive benefits associated with empathy:

1. Fosters insight into different perspectives and promotes genuine open-mindedness
2. Discourages hasty and superficial problem examination
3. Facilitates construction of more fully elaborated and frequently novel problem models
4. Discourages belief rigidity
5. Encourages cognitive and personal flexibility
6. Practices persistent probing, engaged examination of an issue in alternation with flexibility (Gallo)
As you can see, there’s a strong link between empathy and critical thinking skills.

“Distributed and collaborative learning, with its emphasis on mindfulness, attunement to others, nonjudgmental interactions, acknowledgment of each person’s unique contributions, and recognition of the importance of deep participation, can’t help but foster critical thinking skills and greater empathic engagement,” says Jeremy Rifkin, social theorist and author of *The Empathic Civilization*. “In that sense, collaborative learning transforms the classroom into a laboratory for empathic expression, which, in turn, enriches the educational process.”

And there is hard evidence that this is the case. Empathy and academic outcomes research shows a remarkable correlation between students’ empathetic understanding and their academic performance. For example, researchers (e.g. Bonner and Aspy) have identified significant correlations between student scores on measures of empathetic understanding and their grade point averages, and a review of research related to empathy training/instruction indicates that this instruction enhances both critical thinking skills and creative thinking (Gallo, 1989).

A particularly interesting study from 2013 found that empathy works the other way around, too, increasing as a result of academic advancement.

The study, “Reading Literary Fiction Improves Theory of Mind,” was carried out at New York’s New School for Social Research, where researchers paid participants to read excerpts for only a few minutes before taking computerized empathy tests. Some read literary fiction. Some read bestsellers (selections by Rosamunde Pilcher, Robert Heinlein, and Gillian Flynn). Some read nonfiction, taken from Smithsonian Magazine. Some read nothing. This was accompanied by four other experiments.

According to the study, the results clearly show that “reading literary fiction temporarily enhances [Theory of Mind]. More broadly, they suggest that ToM
may be influenced by engagement with works of art.” And by Theory of Mind, all the researchers really mean is a sort of cognitive empathy: Theory of Mind, or “mind-blindness,” is an inability to see things from any other perspective than one’s own.

“Our contention is that literary fiction, which we consider to be both writerly and polyphonic, uniquely engages the psychological processes needed to gain access to characters’ subjective experiences,” the researchers write. “Readers of literary fiction must draw on more flexible interpretive resources to infer the feelings and thoughts of characters. That is, they must engage ToM processes. Contrary to literary fiction, popular fiction, which is more readerly, tends to portray the world and characters as internally consistent and predictable. Therefore, it may reaffirm readers’ expectations and so not promote ToM.”

In other words, by forcing you to think, empathise, and assume instead of handing you prototype characters whose actions and personalities can be squarely understood, literary fiction is “literally making you a more caring and emotionally intelligent person.”

Perhaps even more telling than studies like these is the neuroscience that underlies empathy and learning.

The ventromedial prefrontal cortex (vmPFC), which lies at the front of the brain, is responsible for the regulation of both emotional responses and decision-making. People with damage to this area tend to exhibit antisocial behavior, impaired moral judgment, and in some cases a reduced capacity for critical thinking and other learning mechanisms.

Although most of their intellectual ability is preserved, patients with bilateral lesions of the vmPFC develop severe impairments in personal and social decision-making. They have trouble choosing between options with uncertain outcomes, and have an impaired capacity to learn from their mistakes, making the same decisions again and again even though they lead to negative
consequences. These patients choose alternatives that give immediate rewards, but seem to be blind to the future consequences of their actions.

Scientists have confirmed a direct link between empathy deficits and reduced capacity for Theory of Mind. Why is this important? Because Theory of Mind has been shown to enhance academic performance.

Interestingly, damage to the ventromedial prefrontal cortex has also been connected to deficits in detecting irony, sarcasm, and deception. Subjects with damage in this area have been found to be more easily influenced by misleading advertising. This has been attributed to a disruption of a “false tagging mechanism” which provides doubt and skepticism of new beliefs (read: critical thinking skills).

Especially relevant to the discussion on empathy, people with damage to the ventromedial prefrontal cortex are more likely to endorse self-serving actions that break moral rules or cause harm to others. This is especially true for patients whose damage occurred the earliest in life.

At the Rambam Medical Center in Haifa, Israel, scientists have confirmed a direct link between empathy deficits and reduced capacity for Theory of Mind. In one study, seven of nine patients with damage to the right ventromedial cortex showed both impaired empathy and TOM. This was contrasted with patients who had damage to another part of the cortex (the dorsolateral), slightly less responsible for empathy regulation, and who showed no reduction in TOM capacity.

Why is this important? Because Theory of Mind has been shown to enhance academic performance, too. A 2013 study in the European Journal of Developmental Psychology tested a group of 49 kindergarten students and found that Theory of Mind correlated with academic performance over the course of the school year. And this is nothing new—countless studies before this one have confirmed the same thing: Theory of Mind predicts learning gains.
It’s not difficult to follow the path of logic from here. If empathy and Theory of Mind are inextricably interwoven on a neurological level, then empathy and learning must be too.

**How to Cultivate Empathy for Learning**

The challenge we all face isn’t why but how to cultivate empathy in ourselves and others, so that we thrive as individuals, as a society, and as a planet. Thankfully, the science increasingly suggests that cognitive empathy in particular is a skill that can be learned and mastered, and we are gaining a better understanding of just how to do so.

1. **Practice Role Playing.**

One of the primary methods of empathy training is encouraging a student to take the role of another. The National Center for Infants, Toddlers and Families defines empathy as “the ability to imagine how someone else is feeling in a particular situation and respond with care.” Teachers act as important role models in showing their students how to empathise with people. Through their own actions and behaviors, educators can teach their students how to recognise, understand, and react to the feelings of others.

Facial recognition, emotion skits, memory match, and empathy charades are just a few examples of the many role-playing games you can try.

2. **Focus on Non-Cognitive Skills.**

Chicago has a social program called One Goal which works with about 1,300 high school kids in the city, helping them to develop non-cognitive skills and leadership principles. Kewauna Lerma, once an aggressive 15-year-old girl who was arrested for punching a police officer, was one of the students helped by One Goal’s social-emotional learning program.

As a freshman in high school she had a GPA of 1.8. On her first practice ACT, she scored an 11, which put Kewauna in the bottom one percentile of
everyone who took the test that year. By sophomore year, after she enrolled in One Goal, her GPA had jumped to 3.4. She graduated high school with a GPA of 4.1 and scored a 15 on her ACT and enrolled in Western Illinois University.


One interesting example of this is the Roots of Empathy project, begun by Canadian educator Mary Gordon, which has been introduced into first through eighth grades across Canada. A mother and her baby visit the classroom once a month for a school year. Students are asked to closely watch their interaction, especially how they communicate and respond to each other. Over the course of the year, the children experience the baby and her mother as unique people with needs and desires for affiliation and affection not unlike their own.

They become attuned to reading the baby’s feelings and develop an empathic relationship with the baby and the mother. Children come to learn about emotional literacy, which Gordon defines as “the ability to find our humanity in one another.”

“Putting students into direct emotional contact with the parent-child attachment process and empathic bond creates ‘citizens of the world,’ children who are developing empathic ethics and a sense of social responsibility that takes the position that we all share the same lifeboat,” Gordon argues. “These are the children who will build a more caring, peaceful and civil society, child by child.”

Kimberly Schonert-Reichl, a psychology professor at the University of British Columbia who has studied Roots since 2000, said it is particularly important to teach social-emotional skills with at-risk youths.

“The evidence is so clear that when you do it, it doesn’t interfere with test scores, but it actually helps them do better in school,” she said. “It builds resilience.”
Governments have helped subsidise the program’s expansion in other countries, too, including Scotland and New Zealand.

4. Create a Sense of Community.

The aim of a program called Responsive Classroom is to create a caring educational environment through various research-based techniques, including modeling, role playing, teacher reinforcement, reminders, and redirection. These techniques result in increased social skills, cooperation, assertion, responsibility, empathy, and self-control.

Particular strategies, which emphasise both social and academic learning, include an area that displays of student work, as well as a mix of whole-class, small-group, and individual instruction; morning meetings in which students exercise social skills through greeting, conversing, and solving problems; student participation in the development and enforcement of class rules; choice time, during which students can direct their own learning in both individual and cooperative group activities; guided discovery in which students have the opportunity to explore various learning experiences; and frequent assessment and reporting to parents.

An evaluation (Elliott 1992) compared the performance of students in a program school like this one with those in two comparison schools. It indicated that the program produced gains in students’ academic competence and social skills as determined by ratings of teachers, parents, and the students themselves in the fall and spring.

“The realization that we are an empathic species, that empathy has evolved over history, and that we are as interconnected in the biosphere as we are in the blogosphere, has profound implications for rethinking the mission of education,” says Rifkin. “New teaching models designed to transform education from a competitive contest to a collaborative and empathic learning experience are emerging as schools and colleges try to reach a generation that has grown up on the Internet and is used to interacting in
open social networks where information is shared rather than hoarded.”

Empathy curricula now exist in over 20 states across Australia and the US. In many schools, empathy curricula start as early as first grade. What will you do to be part of the movement?

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