

Developing Brains- Ideas for Parenting and Education From the New Brain Science

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Relationships: It's the Human Way¹

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Introduction:

Relationships are a major focus in the field of early childhood education today. In fact, we are finding out that relationships are *central to most* learning and communication for both children and adults. It is through relationships that human culture is created and transmitted, be it ethnic culture or the culture of reading.

This keynote address will look at relationships by starting with *how* we work, as humans, when we interact with each other, i.e., what is going on inside of us? Then we'll take a look at some things that can interfere with relationships, and finish with some practical suggestions for solutions.

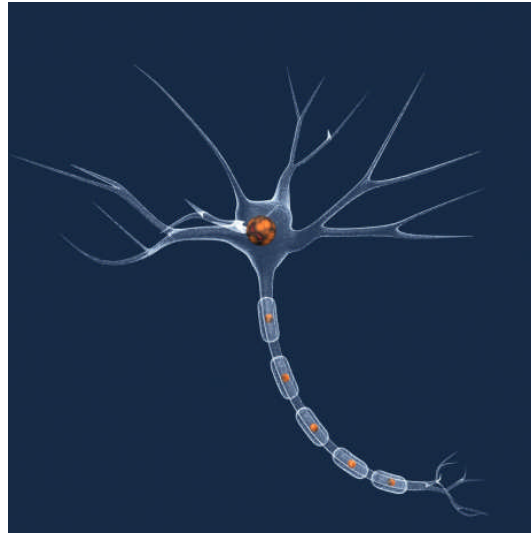
How do we work?

Our brain is a *social brain*. "We are wired to connect." (Goleman, 4) Our brains are set up to make relationships with other people. The way the brain is organized and how it functions is *dependent on interaction with others*.

Language learning is the most obvious example. As babies, we copy the sounds made by the people who care for us and love us. The baby, who is deaf, imitates the signs used by the parents. If no one talks to a baby, it cannot learn to talk. Our brains are set up to imitate the behavior (of all kinds) of the people around us. The baby watches and listens and learns. The brain is made so that it can "grow itself" through interaction with people and the environment.

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The cells of the brain that do this work are called neurons. They are the “wiring” of the brain for information processing. There are 100s of thousands of neurons in a brain, and each neuron is capable of making 10s of thousands of connections with other neurons. It is the *interaction of neurons with each other* that creates human behavior.



Neuron by sgame

Even simple sensory behavior is highly complex. When light hits the retina of the eye and sends impulses down the optic nerve, it is processed in about 30 distinct areas of the brain, and we experience vision, we see something.

Most significant to the topic today is that our brains are *set up to make relationships* with other people. Our brains are designed so that we connect with each other, (brain to brain) primarily through *internal simulation* (like copying or imagining) of the other person's behavior—what he or she is doing, saying, and feeling as well as the internal imitation of their gestures, movements, and postures.

Internal simulation or “imaging” is something used by athletes, dancers, astronauts, and martial arts practitioners, among others. They “imagine” themselves doing a certain move or routine. When they do that, the parts of the brain that would make the body go into action to execute the move, activate. But, they don't activate as much (or as strongly) as they would if the person was *actually* performing the move. Imaging is a form of practicing, in the case of motor behavior. And it is postulated to be the

mechanism by which we discover the difference and construct the concepts of self and other.

And, this same ability, allows me to imagine myself (so to speak) *being* the person I am with, am talking to, etc. As they gesture with their hand, those same motor neurons that would cause that gesture in me - are activated in MY brain - from just watching it, and I begin to *connect* with the other person. We literally "connect", brain to brain, *because* we have mirror neurons. And, through this connecting, we co-construct our relationship.

Mirror neurons are *networks* of neurons that allow us to imitate another person, both actually and just in our mind, so to speak. They "may be critical neural elements in the evolution of language" in humans. (Iacoboni, 2008, 62) In fact, we have *multiple* mirror neuron networks in our brains; and, it is clear that the mirror neurons that allow us to imitate movements are present at birth. This is demonstrated by the newborn's ability to copy simple gestures, like opening the mouth and sticking out the tongue. Having this system in place, allows the newborn to immediately begin to make sense out of the environment and learn from it. It is like being given a "jump start"!

But, though genetics sets up this rudimentary mirror neuron system in the newborn, it appears that interaction between parent and baby is *essential* for, both, the *setting up* of and the *activation* of the other, multiple mirror neuron networks. Our brains *cannot work* without social interaction.

Social engagement between the parent (or other caregiver) and the infant - whereby the adult imitates things the baby does, and plays the little games that involve imitation and turn-taking - this is the "input" infants need to "grow" these neural networks in the brain.

Mirror neurons are critical for effective social interaction and the development of empathy. We can feel what the other person is feeling. We can anticipate the goal of their behavior - their intent. This is why preschool aged children (who may not even know each other) can easily interact or play together. Mirror neuron networks make these social-emotional contacts possible.

Mirror neurons keep us engaged with each other. When we have empathy, when we feel what another person feels, the barriers that divide us begin to melt. We see the other person as being like ourselves, and we see our self as being like the other. People who are doing research on autism's causes are pointing strongly at the mirror neuron systems - assuming that "broken" mirror neuron networks are the key cause of autism spectrum disorders.

Mirror neuron networks allow us to "read each others' minds". We know a person's intent or goal as well as the content of their behavior, what they are doing. We can detect "fakes" - or insincere emotions. It is mirror neurons that allow us to anticipate what a child is about to do! Maybe mirror neurons are the proverbial "eyes in the back of our heads"!

Because of mirror neurons, emotions are contagious. We actually feel what the other person is feeling. We are able to feel another's pain or joy or contentment as though it is our own. This is why your stomach jumps when you see a young child trip and fall! We literally "catch" what the other person is feeling.

Thus, the *quality* of our relationships with other people has an impact on how we feel and function. According to Daniel Goleman (2006, 5), "...nourishing relationships have a beneficial impact on our health, while toxic ones can act like slow poison in our bodies." Toxic relationships, especially in a workplace, cannot be ignored. In just a moment, we'll examine some things that can interfere with relationships, and may make them toxic.

In looking at how we work, there is a final concept I want to remind you of. It is that **body language is a powerful means of communication**. In fact, our bodies speak louder than our words. Some facial expressions and forms of body posturing are pretty universal in their meaning to us, such as in this photo below.



The young man seems to be showing an interest in the young woman at the next computer! Our mirror neurons are keenly tuned into body language and gestures.

Other non-verbal gestures are very culture specific. In fact, mirror neurons are especially attuned to non-verbal communication by people of a similar ethnic cultural background. When interacting with people who *share* our cultural background, communication is more fluid and understanding is enhanced, due to the shared non-verbal communication.

When interacting *across cultures*, we struggle to have our thoughts understood. We have to work to avoid "assuming" anything until we get to know a person or the typical cultural habits of a group.

What about interferences in relationships?

There are many things that can "get in the way" in our relationships with co-workers, parents, and children. My focus today will be on our relationships with adults, and some factors that can block the construction of healthy social connections.

There is a "new kid on the block" in terms of relationships. **Wireless and electronic communication devices** are interfering with our establishing neural connections with people which *require face-to-face and/or voice-to-ear contact*. Some people, actually, seem to *prefer* the ultra-brief text message or the hastily typed email to the longer, engaged conversation. These media are terrific for conveying very concrete information, such as, "Yes, I can meet you at 2:00 today. See you there."

However, when we communicate via email or text messaging, we cannot utilize our mirror neurons to read the other's emotions, intent, or goals. We will only be guessing.

Extending this, as a word of advice, NEVER have an emotionally charged conversation with someone on email or by text messaging. You **MUST** talk face to face or voice to ear. It is very easy to misinterpret someone's intent when you cannot read their body language or hear the tone of their voice.

Try to "hear" the difference in these two ways of saying those three little words we all want to hear...."I love you."

I love you!

I love you!

The meaning of this statement changes completely. It depends upon whether you put the emphasis on the word "I" or on the word "you", though the words themselves remain unchanged.

Electronic communication can actually intensify conflicts and create miscommunications.

In some cases, we are "**outsourcing**" our relationships to virtual reality rather than connecting in person with each other. An example of a type of this "outsourcing" is one that really happened. A person I knew had a school-aged child, who was maturing early, and some challenging behaviors had started to happen at school. The response from the school's principal, counselor, and teacher to this change in behavior was to call in the parent, tell her what the problem was, and then give her a video and some books on parenting. This response had stripped all the relationships out of the situation! The parent was rightfully furious and terribly frustrated! And, she was alone.

An emphasis on **accountability and efficiency** in our early childhood programs can also cause interference in our relationships. Excessive paper work, unrealistic deadlines, and the tracking of what we do during the day are cutting into the "unstructured" time that is necessary for establishing and maintaining our relationships, with parents and other staff members.

Relationships are "hand-made" and improvisational. There is no formula. Each relationship is created anew, and re-created time and time again. Meaningful relationships require contact *outside* of formal staff meetings and structured home visits. Relationships "happen" when we provide enough time and space for them to develop, because **this is what humans do**.

Fear can block relationships. Many people have grown up fearing learning situations and schools and some people may not know what to do with constructive criticism and feedback. They may always *expect* failure or to be told they are wrong. These fears and negative expectations can block the formation of meaningful relationships. When we are frightened, our behavior and thoughts are dominated by our in-born "fight-flight" or stress response, which is initiated by the brain structure called the amygdala. Therefore, we need *new models* of how to interact and establish trust. We must learn how to solve problems using our pre-frontal cortex (the part of our brains that governs planning and self-control) rather than emotional reactivity of the amygdala.

Biases and stereotyped assumptions about people can interfere in our having authentic interactions. We have to examine our own biases and work to get rid of them through exposure and purposeful change. If we do not do this, research points to the possibility of our *inhibiting the full growth potential* of the children in our groups as well as inhibiting our ability to connect with other adults (both parents and co-workers).

Biases, especially those that are unconscious, do influence our behavior, our choices, and our perceptions. They impact others in very real ways. We will re-visit this one as we look at some solutions.

Solutions: Strategies for building and maintaining positive relationships

Find a common ground as a place to start in building relationships. A common ground could be our jobs or the child who is enrolled in the program. We can agree that we all want to do the best job possible as we work together. That's a common ground. We can also agree that we have each child's best interests at the core of our work. We may also agree that an overarching goal is to support individuals and families to grow and flourish. That's a common ground. Relationships are built upon the things we have in common - and it is these which will begin to connect us to each other.

A second strategy is to **be a REAL listener**. Give your *full, undivided attention* to the other person. This is how we express respect for them. We know this is critical for working with children. It is the same for adults.

Oh, and by the way, please don't type on the computer and talk on the phone at the same time. When someone does this, you can hear the tapping of the keys and you know the person is not listening!

There is a saying, by a man named Baba Ram Das, which was very popular when I was in my early adulthood. He said "Be here now", meaning, be fully present. If, when you are interacting with someone, if your mind is on what you need to pick up at the store on your way home from work, the other person's mirror neurons will detect the lack of attention. They will know you are not listening.

Be sure to notice the positive, constructive, useful, humorous things that the other person does or has said. **Acknowledge that person** when you share their idea or contribution with someone else.

These strategies communicate the existence or formation of a relationship and also communicate inclusion of an individual into a group or team. It models respect for others. It makes us feel good, and, since emotions are contagious, good feelings are spread!

These little things (these acknowledgements) can be especially helpful for actively involving people, such as supporting a new staff member on a team, or encouraging a parent to participate, who might be reluctant.

When you have something hard to say to someone, try one of these "sentence starters":

1. "I" messages
 - "I'm concerned..."
 - "I get uncomfortable when..."
 - "I'm not sure I understood..."
 - "I'm wondering..."

2. Being a "detective"
 - "Tell me about..."
 - "What happened when...?"

The "I" messages can keep accusatory statements from being said (which typically begin with "you" and may be accompanied by an accusatory finger

pointing to the person). They also eliminate the tendency we can have to tell someone else what *they* are feeling or thinking.

The "detective" questions communicate concern and a desire to understand the other person's perspective and feelings. Both strategies can build trust.

Be honest with yourself about your biases and work on getting rid of them. Everyone has biases. No person is immune. Many of our biases are "implicit" or unconscious. When you discover a bias that you hold about a culture, a characteristic of an individual, or the way someone looks, there are steps you can take to address this. Let me give you an example from research.

Siri Carpenter, in her article entitled "Buried Prejudice", sites the following unpublished study by Keith Payne and Brandon Stewart that sought to address the challenge of how you can gain control over automatic processes that underlie implicit biases.

Payne and Stewart conducted their study using the implicit bias that many people in the U.S. have, which is a fear of African American people. They "found that those [people in their study] who simply resolved to think of the word *safe* whenever they saw a black face showed dramatic reductions in implicit racial bias. You don't necessarily have to beat people over the head with it.... You can just have this little plan in your pocket [think 'safe'] that you can pull out when you need it."(39)

The specific word we would say depends on the nature of the implicit bias. For example, if we think that people who have mobility challenges are "not smart", we might say or think the word "intelligent" when we see a person who uses a wheelchair. "Once you've gone to the work of making that specific plan, **it** becomes automatic." (39) The bias got into our brains through association and modeling. We can use the same processes to get the bias in check.

Be a model of constructive problem solving with adults as well as children. Repetition is a key to long term memory storage and is a key to forming habits of the mind. The more we make healthy habits and processes

automatic, the easier it is to do them. We use fewer neural resources overall, when processes are automatic, and thus we have more neural resources left to do executive functions at the same time.

Solving problems in the work place or with a family should not be an enormous emotional and cognitive drain on us, any more than changing a wet diaper should be. Let me give you a little outline of one way to approach problem solving in a constructive way.

Problem solving:

This is a simple "reminder" outline. How you would do this is determined by your own personality and communication style. But these steps are each designed to move you to consensus and a solution. It doesn't necessarily mean it will work! If it doesn't, we go back and try another solution.

First of all, **talk to the person directly** - talking to others about the person creates triangles and tension.

State your problem or concern and tell why you have the concern. If you cannot explain why you think there is a problem, you need to think about it more deeply by yourself. Check for biases.

Ask the person for their point of view on the concern. There are always at least 2 sides to every situation. You cannot know the other's point of view before they tell you what it is!!

Find agreement on what the problem is & whose problem it is - Some "problems" are really just personal preferences. Sometimes one person is making some assumptions about the other's motivations that are unfounded.

Brainstorm some possible solutions that would work - Coming up with more than one solution gives you wiggle room for finding the one with the best fit. If there is only one solution, brainstorm how to implement it. Try to also anticipate unintended consequences of any of the solutions.

Agree on which one to try - If there is more than one solution, find agreement on which to try first.

Implement it-stick to it - You have to give it some time to see if it really will solve the problem.

Review progress after you've tried it out. Keep communication open - keep talking. Now that the problem is being discussed, it loses some of its "bite"!

Rapport-a basic ingredient

So, let's summarize what we know about relationships. Daniel Goleman describes some research by Robert Rosenthal and Linda Tickle-Degnan on the elements of "rapport", which is the "basic ingredient" of relationships that really work. (29-30)

Rapport happens only between people and when it is there, it feels good. "When people are in rapport, they can be more creative together and more efficient in making decisions..." (Goleman 2006, 29) Rapport is a state where we feel each other's "warmth, understanding, and genuineness." (29) It strengthens bonds between people, even if only temporarily.

There are three elements to rapport.

The first is mutual or shared attention. Two-way attention initiates shared feelings. As Goleman says, "both partners experience being experienced." On the other side, when our attention is divided, "we tune out a bit, missing crucial details - especially emotional ones. Seeing eye to eye opens a pathway for empathy." (30)

The second is shared positive feelings. These are "evoked largely through tone of voice and facial expression." (30) This is the part that is lost in e-mails and text messaging. In fact, it is the non-verbal messages that matter the most - more than the words we use. According to Goleman, "in an experiment where managers gave people *unflattering* feedback while still exhibiting warm feelings toward them through their voice and expression, those receiving the critiques *nevertheless felt positively* about the overall interaction." (30)

The third element is the well-coordinated nonverbal duet, or synchrony.

Says Goleman,

"we coordinate most strongly via subtle non-verbal channels like the pace and timing of a conversation and our body movements. People in

rapport are animated, freely expressing their emotions.... [It] has the look of a closely choreographed dance, as though the call-and-response of the interaction has been purposefully planned." (30)

Without this coordination, conversations feel awkward and uncomfortable. So, these three elements combine to make up what Goleman calls: Rapport and Relationship Magic!

Healthy relationships take work - forever! You cannot stop working on them. Don't give up. Keep trying. Learn to adapt. Remember, relationships are essential for our well being and survival, because, it's the human way!

Resources:

Carpenter, Siri. "Buried Prejudice." Scientific American Mind. April/May 2008, 33-39.

Goleman, Daniel. Social Intelligence: The New Science of Human Relationships. New York: Bantam Books, 2006.

Iacoboni, Marco. Mirroring People: The New Science of How We Connect With Others. New York: Ferrar, Straus, and Giroux, 2008.

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