Why We Learn

By Teresa Henkle Langness

Advanced
ARC
Reader Copy

Dedicated to society's future humanitarians and change agents

www.fullcirclelearning.org. info@fullcirclelearning.org

Why We Learn

An Interdisciplinary Perspective on
Altruism, Motivation Theory, and Full-Circle Learning

By Teresa Henkle Langness

Acknowledgments

This book on educational evolution, by its very nature, acknowledges the alignment of many schools of thought. The gifts of the process thinkers, the philosophers, the social scientists and many storytellers and theorists, over time, all walked in concentric circles. However, the breakthroughs that led to the emergence of this educational model sprang from three major influences that initiated beginnings and turning points in a research process that spanned a period of 40 years.

I would therefore like to especially acknowledge these three major influences: Adolf Augustus Berle, Sr., for his seminal work in integrated, project-based learning in the 19th and early 20th centuries; Samuel and Pearl Oliner for their studies on the processes that nurture altruistic identities in childhood; and the great humanitarian Abdu'l-Baha, who taught the children of his persecutors and who recommended educating children to render service to *all* of humanity.

For their common vision and for their tireless support, constancy and creativity in implementing the field work over the years, I thank the Full-Circle Learning collaborators, volunteers, board members, staff, and trainers on every continent, with a special thanks to the thousands of teachers who honor the nobility of their calling. I thank my husband David for his patience and moral support.

Contents

Section IV. How We Now Connect

Section V. Worlds We Perceive

Section VI. Case Studies

Section VII. Moving Ahead

References

Introduction

Learning and Love

This book rock-hops across the river of thought that runs through education, philosophy, sociology, psychology, and religion, all linked by a common thrust – the essential motivation of evolving learners to *learn* for the sake of *love*.

The events that inspired this odyssey include year after year of confirmation that human development thrives when learning itself bears the noble purpose of uplifting humankind and caring for living things. Full-Circle Learners have convinced me that it does.

The Full-Circle Learning model evolved over time. Its first pilot program began as a response to the needs of children traumatized by civil unrest in South Los Angeles, California. Over its first three decades, Full-Circle Learning's non-profit NGO reached 35 nations, serving 650,000 new students and teachers each year.

The first Full-Circle Learning program developed in a neighborhood where children had experienced civil unrest. The evolving program helped them shred any sense of victimhood and become society's healers, humanitarians and change agents. It did not happen overnight but one day at a time.

Their stronger instinct – to give and to serve – outweighed the outer reality as learners grew into change agents, through a model that tethered their skills to a broader understanding of the world.

A wheel represents the circular nature of a Full-Circle Learning unit, whose 13 types of learning processes fall within five categories. The Academy of Educational Development designated it as a promising practice early in its development. The main premise that unleased the potential of these practices:

Human bonds can spur the quest for self-mastery while prompting action toward transformation goals in the larger human family.

In the years before the birth of Full-Circle Learning, I used to wander hilltops and valleys in search of solitude and general inspiration. When I lived in the American Southwest, I took my children to listen for the echoes of birds in wind-carved archways, to cradle rocks in sandy riverbeds and to explore canyons filled with petroglyphs.

A Navajo friend took us in as if we were part of her family. As we studied the four directions and learned about life in the Hogan, we watched the dancers of many nations at the Powwows circumambulating in unison. It struck me that their circular movements—with their homage to the four directions--resonated with the universal tribute to wholeness.

The four-petaled lotus with its symbology as the four points of the compass inspired Brahma and Buddha. Dante conveyed a vision of a white rose. Round halos surround the figures in ancient churches. Jung described all these symbols as markers of the search for unity between nature and self, for the overlapping of thought, intuition, feeling and sensation.

The Full-Circle Learning symbol also depicts the process of learning as a circle, pivoting the search for meaning and wholeness, in terms of what it means to be a connected human, with all points directed toward the articulation of a humane society.

This daily quest for direction drives the routines of a waking life informed first by a deliberate swim into deep channels of thought and action. These waters bathe us in other-directedness and the call of a world outside the self.

Character formation emerges based on the bond of the learner not only to a higher consciousness but to the world of living beings.

The wheel gathers speed by collecting a view of the earth and its aesthetical essence, the scientific forces behind its beauty and oneness, the needs of its people, the arts that reflect and connect and enable us to uplift, to advocate or to ask questions as we push ahead to the next spoke, Our broader view introduces a dilemma or existential crisis.

We work through hypothetical and real conflicts related to our

learning, practicing processes that strengthen relationships, build bridges, solidify character, build accountability, defer blame, keep us focused within that wheel, and prepare us to integrate all our problem-solving skills to approach a final dilemma or challenge in the broader world.

At last, we take steps on the final spoke, acting on intuition, sensation, thought and practice to bring about a more whole society through service to the whole of humankind. Pushing past the Jungian symbol, the fifth direction turns childhood contemplation into societal transformation.

Learning leaders engaged in these processes will have constructed or reconstructed mental models built on trust, created patterns of non-judgmental thinking and entered negotiations with the intent of changing their own interior constructs rather than changing the “mind” of another. They will see innate gifts of intellect and creativity not as possessions to flaunt but as seeds to water, so they may nourish fellow beings from their own storehouse, both immediately and in the future.

Full-Circle Learning teachers learn to see the thread of continuity in many avenues of psychology, just as they do in philosophy. They learn to apply the most effective concepts of Whitehead and the process thinkers. They internalize ideas from transformative learning theorists such as Jack Mezirow and Peter Senge, who taught that we can revise our subconscious belief systems about others and our negative self-perceptions in order to change our habits and behaviors—a task so difficult, the training takes place first as a workshop for adults.

Some educators, of course, intuitively teach personal self-mastery to students with *role modeling* as their greatest strength, because they have internalized this concept of replacing negative with positive perceptions. In these cases, the circle becomes a symbol in which layered processes and attitudes, beyond steps and strategies, crystalize a single learning concept (a character theme) as students apply their basic skills in pursuit of service to the common good.

The Voices in Our Heads

As a young writer, I completed a book of poetry and commented that whether it reached many eyes

and ears or not, the impulse to write poetry calms the soul, justified by its cathartic value. My editor railed at me, saying, “Does a painter turn a picture against the wall? Does a musician perform in a closet? Your work is not complete until someone sees or hears it!”

The editor’s interests sprang from a sense of economic justice familiar to artists from almost every genre. As I thought about my urgent need to earn a living and to feed my family, it made sense, yet a much deeper impulse had throbbed in my veins long before I knew the relationship between work and money. The need to create came the first time a poem bubbled up from my soul as a little child and I asked myself, Now what do I do with it? Who needs to see it?

I have thought about the editor’s metaphor from an altruistic perspective over the many decades of adulthood, knowing that the passion in our work can more likely ensure its success than can work without purpose. The voice in my head shaped my vocation *and* my avocation.

The story of Mozart, playing a symphony at age five that he’d

heard only once, while still in the womb, astonishes us. What made him *able* to complete the feat, as opposed to *wanting* to perform the feat? Long before economics steer the direction of genius, the child sees the gift as just that, a *gift* not only given to him but given from himself to a waiting ear or eye—whether that of one lonely grandparent on a bench in the park, friends gathered at a recital, or an imaginary elf listening under a tree, as in my case.

No matter the size of the audience, the initial impulse, before we taint its purity, tends toward an altruistic motive to share what we have worked to cultivate.

When my six-year-old grandson showed a quick affinity for speaking Chinese, I showed him a Mandarin calligraphy poster given to me by a colleague, which said, “The benevolent person bears the

responsibility for society." I wanted him to use his gift wisely, remembering that his mother, as a child, had written the President asking why seven-year-olds could not vote and received a detailed reply. She framed the letter. Was it a coincidence that she has spent her career with a home base in Washington, DC, working internationally for many humanitarian agencies based there?

Her brother, at age six, went to the library to look at the periodic table, then wrote NASA to tell them they should have used titanium to avert the explosion of the Challenger spacecraft. NASA wrote back, saying they had done so. They took him into their confidence about what went wrong. It came as no surprise to me that he grew up to be a scientist, transportation engineer and city planner.

The *purpose of the action* drove the desire for these children to explore their natural gifts. Intuition, feeling, sensation, thought, and then application created a path for positive change much larger than themselves.

Cognition, curiosity and creativity, when doused with compassion, motivate a kind of learning that will not self-destruct in the throes of competition or corruption. Instead, this kind of learning advances evolutionary impulses that, we now know, begin before birth.

The idea that innate altruism can meet the goals of education as well as the goals of transformation seems self-evident.

Globally, education systems that awaken to the potential of this inherent learning motivation—to uplift the human family—create opportunities that serve the learner and the society as they influence the well-being of the next generation.

For me, watching the truth of this process unfold has tendered an exciting life's journey, filled with purpose. I hope it will do the same for you, the reader.

Section I: Who We Are

Toward a Definition of Education

People have many reasons for choosing a career in education. Maybe an instructor inspired them. Perhaps they feel passionate about their subject matter. Often the impulse to educate also stems from a deeper place—a well of desire to contribute to something greater than self, perhaps to watch this trait blossom in the lives of the learners who inherit it.

The noblest of professions, teaching allows us to populate all other professions and imbue the next generation with purpose.

If a journalist asked you to describe the essentials of education, what would you say? Feel free to shape and reshape your response as you read this book and define the common heartbeat shared by the educator and the educated.

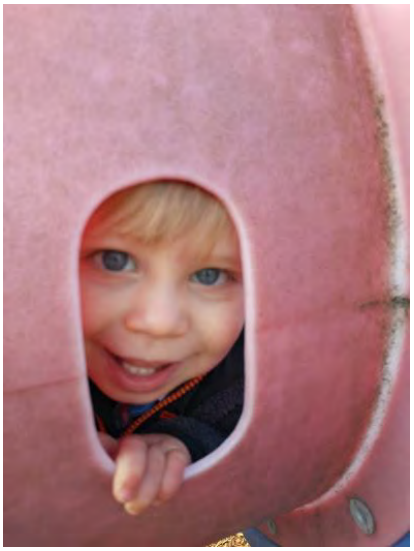
What: The accepted definition of education includes the acquisition of skills, knowledge, habits and even beliefs. (1) True or false? Would you add more?

How: Reading, research, storytelling, demonstration, experimentation, Socratic discussion, research, teaching as learning, role play, content integration, writing, recitation, even basic sensory observation and contemplation all contribute to the toolkit of strategies for learning. Which methods come to mind when you think of "how" you learned life's most valuable lessons? (Most of us tend to teach in the way we personally learned as children.)

When: "Lifelong" best describes the current recommendation for learning, with formal compulsory education recommended for 12 years. Are you happiest when teaching or learning—or do you distinguish between the two processes?

Why: Ah, herein lies the most interesting question. We can follow up with talk of the tools of the trade, but what do they matter unless we start with the most critical question about the basic human motivation to learn? This question has captured the imagination of poets and

philosophers, of anthropologists and artists, of scientists and spiritualists, of mystics and mothers. Certainly, the “why” question must occur to the educator early in the search for a personal pedagogical vision.



The Quest to be Human

Consider first that living things lean toward life. Plants seek light. Immune systems strive to survive. When the human brain enters the biologic picture, life itself seeks a connection to *other* life, to a family of living things. Settling into a sense of belonging means finding a purpose among other living things. Education, then, yearns for a meaningful connection to that family of living things from whom we sense the need for our unique and evolving capacities. A pattern of altruistic giving, based on filling human needs, lures us toward lifelong education, with its promise of perpetual purpose.

My grandson, as a small child, read a book called *I Am Human*. At the age of three when tiny scientists feel prone to classify vehicles, dinosaurs, animals, colors and letters, he felt mesmerized by the concept that he could at last classify *himself*. He snuggled between his dad and I as we read it. Afterward, he put down the book and went to the breakfast table. “Mommy, I am human! Are you human?” he asked. Later in the day, he had an appointment with the doctor. As she checked his ears, nose and throat, he announced, “I am human.” He looked at the chart, as if expecting her to add that information to his vital signs. He reaffirmed to me on the way home, “Grandma, I am human.” He no longer needed the book to tell him so.

This epiphany and sense of belonging to the human family —

“one in 9 billion and yet unique,” as the story goes, becomes the basis for seeking a role in the order of things.

Abraham Maslow presented a psychology paper in 1943 identifying his famous Hierarchy of Needs. He emphasized the importance of acquiring essentials – food, shelter, safety and then a sense of belonging – before seeking the mesmerizing peak learning experiences that lead to creative fulfillment and meaningful contribution to society. He came to believe, in the end, that even self-actualization, a state of self-transcendence moves beyond the emphasis on personal need.

Almost three decades of research with Full-Circle Learning communities on multiple continents persuades me that sometimes the needs themselves contribute to the transcendence. Contributing to the human family can trigger fulfillment of all other needs. The effort to uplift others may become the *incentive* for the transcendent experiences that provide belonging, comfort and trauma reduction.

This deviation from the Hierarchy of Needs theory pivots on the concept that people learn for the purpose of giving, and that this path of purpose can help the learner transcend other blockades. The sense of mutuality involved in connecting with and uplifting other members of the human family — or the family of living things, in general — can inspire a deeper motivation to adapt relevant skills, despite basic hardships that may otherwise inhibit learning.

The most basic item on the hierarchy of needs, perhaps, resides in the need to reach out and touch another life, especially a human life.

Paint from Peanuts

George Washington Carver, an African American scientist, turned peanuts into paint and about 100 other products in the early 20th century. He did not create his inventions for fun, but to offer farmers alternate crops and to improve their way of life when the boll weevil destroyed the cotton crops in the American South.

The application of intelligence had a subconsciously altruistic end goal in sight., even in preliterate times, when defined as enlarging

the circle of those who could whittle bone and wood into tools. In the eleven-hundreds, why did city planners imagine streets laid with thousands of cobblestones for carriages? Why did Mesopotamians creatively design canals rather than flee the drought and live on the mountain? Why did the patiently terraced agricultural systems of African communities emerge? Why did steel originate in India? Why did the Brits establish the oxygenation process? They did these things for the same reason George Washington Carver invented peanut-based paint.

How does each civilization sense the need to improve life for its people by improving its engineering methods from one era to the next, much less its approaches to health care, architecture, the arts, agriculture, the governing structures of its civil societies, and many other fields of human endeavor? The answer lies in an instinctive impulse toward collective empathy that insists not only on survival but on quality of life for its members. The higher functioning societies extend that empathy toward all, not just some, members of their societies.

Learning Toward the Light

The world has moved beyond the age of accumulation to an age in which redistribution best supports sustainability. Even when improving means *limiting* commercial enterprise, *preserving* tradition, *restoring* preventative healing practices, *recalculating* for social justice, *redesigning plans* to protect the environment and to sequester carbon, each generation contributes its own sense of collective progress.

Within that search for aggregate momentum, each individual hungers to find a pixel point on the historical timeline in some conscious or unconscious manner, a way in which their life matters, either on a large canvas or in some small unique giving capacity within a network of relationships. Healthy brains hunger to contribute to the cause.

Suffice it to say that the desire for *purpose as a member of the human family itself* drives the aspirational engagement in education. Today, this innate motivation can inspire the advancement of a social structure that strives to sustain life on the planet, to enhance individual well-being, to contribute to the health

and safety of all members of society and to ensure the peace and security of the diverse members of the human family.

Purpose as a member of the human family — always a mortal instinct — in fact remains an essential motivator for learning. You might say that we regard our subconscious selves as plants learning toward light.

Mutuality Brings Resonance

Images in nature sometimes reflect the clearest patterns that influence what we know about human development.

Stand on a bridge on a clear day, overlooking a placid brook or river. Note the hands of sycamores outstretched, their limbs arched over the water. As you stare into the water's surface, you will see the static image of the tree enshrined in its mirror, with clouds and diluted colors making the scene all but real. The following day, the same tree will exist in the same place in the water.

The mirage represents the growth of the tree itself. To those who look more carefully for the sources of the growth, the physical sycamore growing at water's edge, fed by the stream, has grown tall precisely because of the harmonious relationship between the roots and the water, its life source. The motivation source inspired the growth process.

Many other mutualistic relationships exist in nature, such as the relationship of pines, oaks and alders with a certain fungus that feeds the mushrooms at the base of the tree. The fungus fulfills its purpose in the thriving of the mushroom and the mighty tree.

The world of sound offers trenchant examples as well. At a recent house concert, listeners, each with eyes closed, felt mesmerized by the strains of a cello-piano duet. The cellist's bow, drawn confidently across the tungsten strings, stirred emotions and evoked mental images through a series of rhapsodies, etudes and lyrical Brahms movements.

I thought about the miraculous power of sound waves. Those tungsten strings alone, held taut across the cello's cavernous wood body, could not have produced this range of resonant notes and resulting reactions on their own. To achieve its purpose, the cello needed more than well-tuned strings. Resonance depended on the echo created by the horsehair

bow drawn across the strings, the scampering left hand holding the strings against the fingerboard, and the hard back of the instrument itself, carved with such care, as the luthier's hand understood the mathematical precision needed for vibrating sound waves to dance along the troughs inside the instrument. Unique role players all took part in the process, creating a pattern together as rolling colors in a kaleidoscope of sound. The bow, hand and parts of the cello sprang to life, each fulfilling its function only when working as one.

Wave patterns crest and fall, whether on a beach or in the song of a bird or in the rumble of a Congo drum or the legato of a stringed instrument's final chord.

If you sprinkle sand or salt on the surface of any surface receiving the vibration of sound waves, a vibrating bow drawn along the edge will scatter the particles into a fractal pattern on that surface. If those particles vibrate in disarray, confusion replaces resonance. The laws of physics prefer a surface that allows a pathway to one clear tone.

Makers of the first bowed instruments, originating in Central Asia and predating the violin, consciously or unconsciously, toyed with these same laws of physics. They did more than massage natural material into strings. They experimented with processes and patterns until — Voila! — the motivation of seemingly innate objects resulted in a resounding thrill to the human ear.

What can we learn from symbiotic trees or from sound waves? The learner cannot play in a static setting. Like a tree whose roots send underground messages, or like a cellist with a hollow instrument, she can only set a process in motion once her act resonates mutually with all the resonators longing for her touch. Mutuality creates the music. The desire for this mutualism expands purpose, whether we consider the function of a cello string, or the knowledge product carved by a human being. The bow strums the cello, the stream feeds the synergistic growth of the trees. For humans, motivation to learn increases when we know that our own essence, skills and capacity will grow as we improve the welfare of another.

Learners in a Human System

Conversations near the turn of the twenty-first century turned to chaos theory, the influence of one physical system upon its outer systems. This talk initiated new trends in multiple disciplines: sociology, organizational psychology, behavioral science and education. Chaos theory helped describe how a very small change could create chaos in a system over time.

Margaret Wheatley's book *Leadership in the New Science* shifted the way institutions organized. Riane Eisler brought these same ideals to the concept of educational leadership in *Tomorrow's Children.* Peter Senge wrote *The Fifth Discipline* to help readers correlate nature's systems with human systems.

Benoit Mandelbor of IBM coined the term "fractal" to indicate a pattern within a pattern (for example, water molecules within a cloud and clouds within a sky; or blood cells within the veins that make up the circulatory system within the larger body). In such a system, a change in one cell can affect the whole body, just as the flap of a butterfly wing can affect a whole weather system (an event known as the butterfly effect).

(Photo by Max Henkle)

When chaos theory emerged as the new scientific field of interest, we began to envision people as equal moving parts of fractal patterns instead of players in hierarchies. These changes affected best practices in businesses, schools and other patterned groupings. Some organizations began to reinvent themselves. For example, schools invited more community involvement and shared leadership in the process of educating children. As we look beyond organizational structure, we might ask how chaos theory relates to motivation theory in education.

Traditionally, many educators relied only upon experts such as Jean Piaget or Lawrence Kohlberg to offer prescriptive timetables and templates for the learning

capacities and moral development of children. We accepted fixed points and expectations for what a child could do and how a child could behave at a given age. If chaos theory demonstrates how one actor in a system affects the well-being of all the others, doesn't it stand to reason that the child can transcend these boundaries, given the chance to act positively upon the destiny of another?

Now, with an acknowledgement of the intersection of science, culture and educational practice, we may examine the possibility that chaos theory can produce a positive impact on human development and on the drive for purpose itself. We can give children the chance to influence others in the system and thereby accelerate their own growth. The results may vary, but over time, children raised with this option in early childhood have proven to become moral leaders and academic leaders in adolescence and early adulthood. (1)

Clearly, Systems Thinking shows that organisms and particles do not operate in silos but interact profoundly on the good of the whole.

Mortals in the Multiverse

If chaos theory replicates its patterns in human behavior, where does quantum theory, or string theory, fit in?

As physicists refine and expand their understanding of patterns in nature, they arrive at the idea that all patterns extend beyond the physical reality we see with the naked eye, across a multiverse. Thus emerges the idea of string theory, a unified theory that suggests a common framework connecting all the forces and particles in the universe.

Ethan Siegel, Forbes Science Senior contributor, expresses the hope in the scientific community for one-to-one mapping of the string picture of the universe.

Edward Witten, the Charles Simonyi Professor of mathematical physics at the Institute for Advanced Study at Princeton, wrote in the September 2006 issue of Physics Today:

> Anyone who has studied physics is aware that although physics — like history — does not precisely repeat itself, it does rhyme... For example, Einstein's gravitational waves are analogous to

electromagnetic waves or to the water waves at the surface of a pond. (2)

We might correlate string theory — a unification of theories — with a concept in anthropology best described by Aldous Huxley as the Perennial Philosophy in his book by the same name. Civilizations, cultures, languages and contexts produce specific impacts on their prevailing belief systems, and yet the string of purpose runs through them in profoundly similar strains, once we interpret their symbols.

All these patterns in the physical reality suggest the intention of oneness — a pull to imprint one's unique existence not as a lone member of the universe, but as a living being swaying in sync with others.

For mortals, expressing our purpose as one of many allows us to experience not only oneness with the human family but a divine connection with the universe.

Section II. How We Think

Neurology and Purpose

The fractal patterns of purpose begin not in the night sky but within us. A long road stretches before us when we set out on a journey. We look down the road, imagine our destination and move ahead, nodding to the vendor in the marketplace on our left, noting how the trees have grown on our right, perhaps listening to the flurry of birds buzzing up out of a bush and following their flight with our eyes. These things may distract us, but we do not forget our destination.

Inside our brains, a network of trillions of tiny white wires lays a path for our patterns of speech and, separately, for the thoughts that inspire them. The brain cells' axons send information across large gaps called synapses, where the dendrites receive them along their budlike spines. Picture an axon as a fiber that sends electrical charges. Its signals tell the dendrites to fire or not to fire, pouring in a chemical formula that helps us search for just the thought or the word that will help us accomplish our ultimate function.

Scientists acknowledge the research still needed to understand this miracle organ, long ago dubbed the "three-pound universe," (1) but some facts seem apparent. For example, this machinery of the brain works with such precision that we formulate our thoughts, then speak about them and act on them, due to the extreme specialization of the network of axons and dendrites moving inside our heads. (2) The words go racing along, each to their destination, connecting a thought with a sound, a syllable, and an action, thanks to the elegant design of the mind — and yet the brain still allows for so much variation in its operations!

The thoughts that inspire each word could face endless possibilities before resulting in a sentence, a paragraph and a consequent action – and yet, in a split second, we make the choice and speak. It seems nothing short

of miraculous that the unconscious mind masters this task of choice.

Setting out on a journey toward a desired destiny begins not with a series of actions, then, but with the precedent of conscious or unconscious thoughts that we welcome into our own brains. In a land of endless possibilities, we must step forward as the gatekeepers of those thoughts that soon walk in freely as habits.

Thinking versus Purposeful Thinking

Educational author Art Costa wrote about metacognition — thinking about the *process* of our own thinking. He taught that we can better manage our impulses and improve learning as we become aware of our thinking habits. (3) To extend that idea to include purposefulness, we can also think about the ultimate *outcome* of our thinking.

We may also find that our own personal thoughts communicate to others in ways that affect *their own* thinking and interactions as well. An experiment at the end of this chapter will allow you to study the impact of your own group's thinking processes on outcomes. (See the instructions and tally charts for the three-week experiment on Thoughts and Purpose.)

Exploring the Morality of the Mind

University studies conducted in 2016 laid bare some interesting facts about the natural ability to give. By dampening a certain section of the brain, neurologists freed participants to give more generously to those in need. One activity involved brain mapping while showing the subjects other people undergoing skin pricks and displaying the facial expressions of the people experiencing pain. The other experiment involved a noninvasive procedure for dampening part of the prefrontal cortex and offering people a chance to give donations to various types of people in need. (4)

The experiments showed which part of the brain, especially the amygdala, respond with empathy to others. This information could lead to treatments for those with post-traumatic stress disorder. It could also explain why we would want to encourage brain development—and a certain type of brain development—at an early age. The one-third of the participants who responded most sensitively to those in pain also

responded the most generously to those in need.

A series of studies conducted at various universities since before the turn of the twenty-first century (5) showed that young children exhibit an inborn desire to help. Some children exhibit more natural altruism than others. One study tracked children over a 25-year period. Those toddlers most likely to return a dropped toy to a researcher later showed the highest graduation rate and proved most likely to turn to civil service careers, especially if their parenting and education reinforced positive choices throughout childhood. Infant altruism studies have since become a popular field at top universities.

One of the more recent findings upended the practices of many parents and teachers who had been careful to always name the positive action rather than label the child. (6)

One study clarified that when a child commits a positive, rather than a negative act, the more effective teacher helps the child embrace a positive identity and aspire to it. “You did a helpful act” does not carry the same weight as, “You are such a good helper.”

Full-Circle Learning practices over two decades confirmed that this distinction plays out in the classroom by giving altruistic whole-class identities to students, to uplift peer aspirations. Instead of third graders, for example, the name Peacemakers challenges learners to settle their disputes.

Robert Sapolsky, a Professor of Neuroscience at Stanford, taught courses on the various influences of both the environment and evolution on human and animal behavior. He cited *game theory* and its implications for evolutionary biology.

In a tournament called Prisoner’s Dilemma, (7) designed by economist Robert Axelrod, subjects looked at the long-term consequences of their games. Sapolsky confirmed what brain imaging revealed about these games in terms of the evolution of reciprocity versus giving more than you receive. He wrote, “The most powerful stimulus of the dopamine-releasing pleasure pathway is a surprise, to some, at least: cooperation between both players.” (8) In other words, cooperation brought the greatest sense of fun.

He also cited the example of philosophical quandaries in which

we must pull a lever on a runaway trolley to choose the loss of one life versus several. The frontal cortex activated when a person faced pulling the lever to save lives, but the limbic system activated when a player had to consider pushing someone off the trolley. “Our emotional state influences the portion of the brain at work,” he wrote. (9)

What Sapolsky described in neurological, evolutionary terms as an “emotional state,” I would add, indicates a signal of higher purpose based on altruism or desire for the greater good. Lower-brain functions come into play when we decide to trade long-term purpose for the short-term instinct of saving our own life by pushing someone else off the trolley. The frontal cortex can, however, suspend gratification to act on long-term purpose by pulling a lever to save *several other lives* counterintuitively at the expense of one.

We show the same complex sense of purpose during a game, when we cooperate with others who seem not to have our best interests at heart, simply because we choose to advance the serenity of the group.

Studies have told us for many years that even infants can express empathy and altruism, and that we can increase the extent of those qualities by offering experiences to a child at an early age. (10)

Increasingly, university studies show which areas of the brain are stimulated and what kind of experiences increase not only the level of caring but also the curiosity and confidence of the child. These items are linked.

In a Full-Circle Learning classroom, each unit begins with a sensory experience linked with the moral education theme. The literature and classroom activities and role playing expand the brain activity of the child when a service activity linked to the moral education theme allows the child to improve the life of others. “Share It” and “Send It” steps within a unit plan nurture the child’s altruistic identity and bind them to others near and far through service-related actions. Suddenly, the experience encoded in the brain becomes more than a hypothetical. It becomes real.

In the study of motivation, theories range from a belief that genetics entice people to act to the desire

for extrinsic rewards to the desire for excitement or curiosity for its own sake. Our experience has shown that as a child has real experiences of caring and feels the value of expressing curiosity, showing creativity or speaking and acting with confidence in order to help others, the child is reinforcing a very positive and natural part of human nature.

By creating experiences that inform a part of the brain called the anterior cingulate, or the seat of consciousness, we create awareness and good judgement at an earlier age. The example of a caring role model who sets boundaries for behavior, a caring peer group, and opportunities to apply one's own learning toward caring and service to others strengthens self-expectations and the motivation to learn.

In a UCLA study on altruism in 2018, subjects were given money to donate to others in need. Those whose brains were exposed to hypothetical pain and suffering freely gave away more of their money. They were able to feel empathy for the experiences of others. (10)

This replicates the findings of a Humboldt study a few years ago that found the value of 1. Providing children with a positive role model; 2. letting children work out challenges with those who are different and 3. allowing them to experience problem-solving through hardship.

These studies bolster the need for a curriculum that continually reinforces their sense of connection as a caring member of the human family—a child whose identity and purpose and emerging skills all stem from serving or bringing joy and love to others because of that essential empathy and oneness.

We have seen this so many times in the classrooms of Hangzhou – in classrooms where an assigned brother or sister woke the other up at naptime – where a clever teacher lined up children in the shape of a caterpillar, touching shoulders to follow her in to class – in the class that first reached out to Haiti after its earthquake, and in another class where children sacrificed their most precious belongings, including their silkworms, silkworms to help a fallen school after an earthquake in China.

The results of caring are universal to the human experience. They

influence the learner, the learning community, the broader community and the world community.

A Brief History of Thinking

Have we given children enough credit for transcending the boundaries of the brain to expand their own moral maturation?

Jean Piaget (1896-1980), a Swiss philosopher and psychologist, believed that regardless of culture, human development insisted upon certain levels of thinking at certain developmental stages. Sensory curiosity and cataloging occur up to age two, he said. Imagination develops, but complex thoughts remain difficult through age seven. Concepts may apply to concrete situations from age 7 – 11. Hypothetical concepts, planning, and logical thinking do not enter the picture until age 11 and beyond, he stated. (11)

Lawrence Kohlberg (1927-1987) paralleled Piaget's stages of cognitive growth with stages of moral growth that move up a chart based on maturation, beginning with obedience and punishment-based obedience and self-interest, followed by a move toward conformity, next bowing to authority, not achieving an understanding of the social contract until the teen years, and, finally, grappling with the ability to contemplate universal human ethics in adulthood, if ever. Do all humans really follow the same trajectory at the same rate? (12) What role do our expectations for behavior play in human development?

Sapolsky did not accept Kohlberg's reward-and-punishment based stages as unalterable. He stated that "reflexive moral acts and implicit neural pathways outside the frontal cortex are still a mystery." (13) We can predict reactions only sometimes, then; at other times, learning can alter potential human action.

An important example in human biology exists in the activation of the amygdala to trigger fight or flight when viewing an unfamiliar face. The human brain has grown a great deal over the past 250 generations, and as its capacity extended from the making of tools to farms, to towns—or from stories to philosophies and religions—he growing parts of the brain exploded with new potential for moral choices, while one part of the brain, the reptilian part, still harbored old potential fears. That part of the brain, the amygdala,

reacts when triggered with threats as simple as unfamiliarity. (In preliterate times, an unfamiliar face might represent a dangerous new species or an unknown competitor who could threaten the food supply.)

As people began to organize around the tilling and farming of the land, they began to fear roving tribes. Perhaps 5,000 years ago, hoarding the possessions of the smaller community meant demonizing the foreign community. (13) Today, dehumanizing a whole group of people by making them appear as a threatening outsider group can trigger this inherited trait and trigger the amygdala's fear-based reactions. Wars, in fact, can erupt over the triggering of unjustified fears of a dehumanized "other."

According to scientists who study the brain's evolutionary adaptations, however, if the subtle wording in an experimenter's question causes the viewer to think of the subject in a photo as an *individual human*, whose empathy the photo evokes, the amygdala does not activate. Instead, we see our commonalities. This may explain why the marketing industry recommends showing one human face, rather than several, in an advertisement, to allow the brain a sense of kinship or connection with the user of the product or the recipient of the service.

Even with research groups conditioned to think of large contingents of people as foreign faces, in Sapolsky's findings, people later unlearned their fear and developed a concept of kinship. The frontal cortex thus showed the capacity to construct meaning and purpose from environmental input.

Brains Need Purpose

The growing human brain developed alongside a human *need* for purpose that has appeared across ethnic, cultural and geo-political boundaries ever since humans began to tell stories about the link between kindness, the preservation of society and the meaning of life itself – in other words, ever since the human brain began to mature.

The human face itself apparently tugs at the human heartstrings — well, at the brain's axons — even before birth. In one study, a researcher showed unborn fetuses dots on a page, apparently projecting the images through ultrasound. Random dots

produced no fluctuation in the heart rates of these third-trimester fetuses, but when they observed dots in the shape of a human face, their heart rates increased, just as infants do when they first see the faces of their parents and family members, as pumping legs, gurgles and bright eyes indicate their emotional reaction. (14)

The refrain, “I am a member of the human family,” seems to create an instinctive sense of purpose to live — to travel through that birth canal and embark on the journey beyond — even before *conscious* thought, metacognition, and the ability to examine process and purpose begins.

If environment influences individuality, evolution, and our resulting brain activity, how can educators play a role in the expectations that bring about mutual human cooperation? How can shaping our thoughts about purpose itself lend context to the biological act we call “learning?” Let’s find out for ourselves.

Self-Experiment – Thoughts and Purpose

Divide the class into two random groups – Group A and Group B. Tally sheets appear below to document your study.

Using yourselves as the subjects, members of Group A will:

1. Spend a few minutes each morning in a meditative practice. Use the relaxation techniques described in the Full-Circle Learning approach to guided imagery or apply meditations based on your own experience or belief system.

2. At the end of this process, when you feel fully relaxed, close your eyes and think, “I will concentrate my thoughts today on seeing or hearing the needs of someone I had not noticed before.” Repeat the sentence silently, visualize the action, and see the words in your mind. Write the sentence. Speak it aloud. Spend a few minutes resting your mind with your eyes closed, to wait for inspiration. Give yourself a cue for turning the thought into action at crucial moments during the day. (e.g. turning to a cue card in your pocket when you see someone angry, distressed or sullen).

3. At night, take inventory of the day’s experiences, and jot down the results of your experiment on the tally sheet. Did someone new appear in your environment? Or did you perhaps notice an existing acquaintance in a new way? Mark “New Thoughts” or “Not Yet” on a tally sheet.

4. On the third following morning, repeat the same experiment, but change the statement to “I will think of a new way to meet the needs of the people in my environment.” Again, agree with yourself on a cue to slip back into the morning thought.

5. This process continues for one week. At that time, you will change your meditative sentence to, “I will find a purpose for my natural gifts and learned skills.” Say this for a week as part of your morning

thought-shaping exercise. Note whether your dendrites fire in new directions.

6. At the end of the process, study your tally sheet, looking for intersections between your emergent sense of purpose and the needs you sense you can fill in the lives of those around you. Hold a discussion with your group members to see how their results compared with yours.

Meanwhile, Group B will:

1. Prepare to make observations in the world around you for 14 days. You will not document whether you used any meditative practice. You will not reflect upon your participatory role in your environment. Rather, each day you will record at least one problem you notice in your local environment or surroundings that education might help solve.

2. Record the problem on the tally sheet. If you do not notice any problems, indicate this.

3. At the end of the two-week period, discuss the results with your group. Note any trends you found together.

Interpreting the Results

On the 15th day, hold a discussion between the two groups. Evaluate the results of the two surveys based on these questions:

1. Did the majority report a change in thinking patterns over the course of the study?

2. Did the first group see a relationship between thoughts about needs, thoughts about meeting those needs and thoughts about applying personal skills? If so, did the relationship of thoughts, needs and personal participation occur early in the process or late in the process?

3. Did the second group see the same community challenges repeatedly or expand its awareness of issues over the course of the

study? Did the members make any mention of problems they saw as solvable or unsolvable? Did they naturally begin to involve themselves in the solution or tend to see any stated problems as belonging to a larger, unseen body of solution-givers? Did their actions subconsciously correspond with their increased awareness – in a positive way or in a blaming way?

4. Compare the percentages. Did the study show a sense of matching thoughts, skills and participation in the solutions for Group B? If so, how did it compare with the engagement of Group A?

5. Did your results suggest that the desire to apply their own education to help was strong and innate in many individuals? Or do your results suggest that the deliberate process of exploring thought processes and reactions to other humans created stronger and quicker involvement and a higher sense of purpose?

6. Could these results vary based on who is participating in the study? Why or why not?

7. How do you think these results relate to young students with growing brains, thoughts and understandings of the world around them?

GROUP A

Day	Self-Observations: Choice 1 Indications	Self-Observations: Choice 2	Thought of the Day
1	New Needs Noticed	Not Yet	I will concentrate my thoughts today on seeing or hearing the needs of someone I had not noticed before.
2			" "
3	New Ways to Meet Needs	Not Yet	I will think of a new way to meet the needs of the people in my environment.
4			" "
5	New Needs Noticed	Not Yet	I will concentrate my thoughts today on seeing or hearing the needs of someone I had not noticed before.
6			
7	New Ways to Meet Needs	Not Yet	I will think of a new way to meet the needs of the people in my environment.
8			
9	New Needs Noticed	Not Yet	I will concentrate my thoughts today on seeing or hearing the needs of someone I had not noticed before.
10			
11	New Ways to Meet Needs	Not Yet	I will think of a new way to meet the needs of the people in my environment.
12			
13	Purpose Found for my Gifts and Skills Today	Not Yet	I will find a purpose for my natural gifts and learned skills.
14			
15	Purpose Found for my Gifts and Skills	Not Yet	I will find a purpose for my natural gifts and learned skills.
16			
17	Purpose Found for my Gifts and Skills Today	Not yet	I will find a purpose for my natural gifts and learned skills.
18			
19	Purpose Found for my Gifts and Skills Today		I will find a purpose for my natural gifts and learned skills.
20			
21	How My Thought Patterns Have Changed in 3 Weeks	Not Yet	Did my skills intersect with my reaction to the needs of others?

GROUP B

Day	Self-Observations: Choice 1 Indications	Self-Observations: Choice 2	Thought of the Day
1	Problems Noticed	None	What problems do I see in my environment that education could help to solve?
2	" "	"	" "
3	" "	"	" "
4	" "	"	" "
5	" "	"	" "
6	" "	"	" "
7	" "	"	" "
8	" "	"	" "
9	" "	"	" "
10	" "	"	" "
11	" "	"	" "
12	"	"	" "
13	" "	"	" "
14	" "	"	" "
15	" "	"	" "
16	" "	"	" "
17	" "	"	" "
18	" "	"	" "
19	" "	"	" "
20	" "	"	" "
21	" "	"	" "

Section III. How We Evolved

Seeing Eye to Eye

A parent once commented, “I want my child to grow up as a model of kindness, intelligence, integrity and cooperation — an example for others — so I am going to teach the child at home, away from other children.”

The parent gradually began to realize that perhaps the personalized reading sessions, history lessons, mathematical training and science exploration would benefit the child greatly, but at regular intervals, the child would thirst for contact with other children and adults into a collective learning environment. How, otherwise, would the child contextualize and apply the lessons through service-learning, role play, collective problem-solving and even leisure time interaction?

Void of bonding and living in a vacuum, the learner would find limited chances to explore the purpose of all these facts. This child would live vicariously in a world without the motivation that comes visually or emotionally or kinesthetically through connection with others — through layered wisdom, work toward a common goal, and creation of useful objects or actions. The child would not see the results of purposeful ideas evoke delight on a range of human faces.

Without seeing and knowing others, how could the child grapple with concepts such as humility, sharing of resources, respect for another’s ideas, resolution of group challenges, altruistic service based on a true need, empathy for those with different skill sets and life experiences, and seeing through the lens of alternate perspectives?

Her willingness to understand the whole human experience, in fact, would lay the foundation for the development of kindness, integrity and cooperation, three of the four

qualities the parent wanted the child to develop. These learned traits, like a yogurt culture, can only grow and ferment over time, not just as a child recites words on a page, but as they connect history in general with the experiences and feelings of others – and as they interrupt their troubles by applying some integrated aspects of their learning to uplift, advocate, celebrate or assist another.

Of course, deprived of contact outside the home, children still turn to writing or drawing or even creating objects from stones or clay or plants. They offer up their work to an eager parent or to an imaginary guest. They randomly give gifts at first. Eventually, they think about which offering matches the interests and needs of the recipient. Instinctively, they turn acts of creatively into points of connection. As they develop an understanding of those around them, the offerings become acts of specific service to an individual or to a group in society. They need to move beyond the early months of life when mother and self are one and come to understand and empathize with others.

Learning to Understand

We broaden the context of our *own* learning about life in the same way, by understanding others. We study the breadth of human experience and explore the context of those around us and also those who came before us. Our adult classroom consists of the whole of human history.

Educators seeking some common thread in the motivation of humans since the dawn of time might benefit by observing the classroom of the world through these stages of history. Whether we interpret the drive for purpose from the perspective of neurology or philosophy, we see that some patterns reflect a universality as learners thrill at the idea of truth seeking, contributing to the common good, and better understanding one another.

History evinces a stronger instinct for us not to snuff out a candle in order to steal its light but, rather, to see our own felicity in the lighted candle that illuminates all.

The Fruits of Altruism

Looking back from where we stand, at the crest of current history, this era offers statistics to show how far mortals have climbed. Humans had turned their instincts toward solving problems that sustain, feed, comfort and help other humans and living things. As a result, by 2020, we reduced the prevalence of diseases such as polio, river blindness, AIDS, and leprosy, thus increasing life expectancy. While half of all humans once died in childhood, and 27% died in childhood as recently as 1950, only 4% of children passed away in 2019. (1)

Modern humans have also turned their skills toward providing basic electricity to 325,000 more people each day of the year. We provide greater access to clean drinking water and even to internet technology each year. To some extent, humans have altered the face of cities and public lands to address intense challenges such as climate change and economic shifts. (2) We have gradually reduced extreme poverty and plan, as a species, to eradicate it by 2030.

Between 1981 and 2019, the percentage of the world's people living in extreme poverty declined from 42% to 10%. While many still suffer, a look at the long arc of history offers great hope – based on inspiring motivators in the story of human development.

World communities raised global literacy to 90 percent in most countries and to at least 30-60% where it was once below 10%. As this educational level improved, violence also diminished. In past centuries, death occurred by war and homicide for 10% to 60% of all people, varying according to whether each region organized a system of governance based on responsible leadership and participation. Each member shared greater responsibility for the physical and social and spiritual well-being of these societies. At the beginning of the 20th century, only 10% of nations had created such governments. More than 50% of nations had reorganized by 2019. By that time, the violent death rate, worldwide, had shrunk to just .33% Society overall had become more peaceful. (3)

If we chalk up benevolent governance to more education, we still must ask what kind of education produced this result. Did it take place in schools or throughout society? In community settings or in networked global villages? How long has human history prepared us to work at creating this result? How do you think these trends relate to the search for purpose?

The World Then and Now

Category	Global Average Then	Global Average Now
Families Who have Lost a Child in 1950 vs. now	27%	4%
Families with Children Who Read	-10%	60-90%
Families Living in Extreme Poverty since 1981	42%	10%
War-Related Death in 1948 vs. Today	21.8%	1%
Infectious Diseases Partially or Fully Eradicated since 1988	0	8

Immense challenges still threaten economies, peace and global species, enhanced by climate change as the greatest threat of all, and yet people in communities everywhere strive to advance the trend toward greater health, security, well-being and happiness. It bears reflection to determine what aspects of human motivation push, prod and assist this process over time. Do you wonder, when and why did this trend begin?

African Altruism

The trends that have improved the quality of life grew slowly over time—so slowly that perhaps some went unnoticed. They began when basic human impulses fed a sense of purpose more complex than survival and resource gathering.

Anthropologists have staked their careers on interpretations of the intentions of the first cave paintings. After the first few happy

doodles, these drawings suggest a painter's desire to mark a place in history, perhaps to show a map to a food source or to tell a cautionary tale of the hunt, but also to invent sacred symbols which, in and of themselves often offer a human hand or point of connection to the future viewer. One anthropologist interpreted the cave paintings in Southern France as the story of matriarchs waving palm fronds and sharing power with their male servants. We cannot know the intentions of the artist for sure, but we can imagine that artist as an early teacher of peace—a painter with a purpose.

With the human bond wired into our DNA, could the altruistic application of skills stem from a desire to preserve the human connection, even in the centuries before recorded history? When did the search for purpose take a philosophical turn?

Archaeologists estimate that homo sapiens have existed for about 200,000 to 350,000 years, and that the earliest anatomically modern human may have emerged in Ethiopia. (4) Some of the world's oldest modern humans, along with their indigenous belief systems, originated in Africa. Whether through the written languages of the learned or the oral stories of the first humans and their developing brains, humankind seemed to understand that no singular person could step onto a path of learning that did not have at its core some benefit for others on that path.

The Latin phrase *homo sapiens* means "wise man." (5) When other similar species died off, this wise human remained, its brain growing over time. At some point in the development of the species, modern man embraced a value system, centered in the relationship between thoughts, deeds and habits.

An Akan maxim suggests that children arrive with mostly good traits to reinforce, but they must overcome their acquired bad habits. "One is not born with a bad 'head' but takes it on from the earth." (6) In the dialects associated with Ghana and Nigeria, one researcher identified specific words that distinguish between the mere designation of homo sapiens and "person." (Ibid.) The conduct of a true person implies the application of character attributes, such as respect, peacefulness and humility, which earn the designation of

personhood. Thus, an early rite of passage in life requires moving from mere human status, physically, to the spiritual station of a person.

Learning environments that date back to the earliest organized communal belief systems suggest that the purpose of learning focused on honoring human relationships, even in the presence of inhuman symbols of faith.

Animism dates back at least 70,000 years, according to anthropologists. Its elements of shamanism, magic, and specific spiritual beings, ceremonies and customs differ from West Africa to Sub-Saharan Africa to Northern Africa, based on local cultural influences, with similarities introduced by travel and trade. Despite such differences, however, these systems shared a common code of ethics. Virtue, in the eyes of the valiant, included obedience to the social compact. Respect for elders, especially parents, hospitality, courtesy, sharing of resources, and kindness to others transcended the variations in tribal and religious affiliation.

Moral neutrality (the chance to develop and make choices) remained a common aspect of the philosophies. The objective of teaching parables seemed not only to ensure safety but also to encourage moral choices and the acquisition of these good habits.

In the post-modern era, as Africa revives tradition and meshes old and new ways, this value system remains intact. Those who violate it probably did not miss that chapter of community education but rather found “personhood” too challenging a task to master just yet.

Parallel Purpose

Preliterate indigenous people from Oceania to the Western hemisphere independently developed similar ethical concepts and belief systems based on the interconnectedness of all life forms. The impact of human gratitude and human action on those life forms became an important aspect of culture, despite the fact that these systems developed outside the influence of Eastern and European and Middle Eastern tradition.

Indonesian villages still embrace a form of animism in which rocks, trees and other natural elements,

as well as ancestors, receive worship, through shadow plays, ritual dances and chants.

The cultural values across Southeast Asia today have met with continual clashes of old and new, and yet a unique study involving short story themes in each country, from the 1950s onward, documents a common thread of family, security, honoring parents and the elderly as perennial themes that readers and writers struggle to maintain. (8)

These common values of honoring parents, accepting extended and non-biological members as family, and honoring the earth as sacred extends from Africa to Indonesia to Melanesia to the Americas. For example, the ethos of the indigenous people of the Americas made them reluctant modern farmers. Tilling the soil with a steel plow injured the earth they call Mother. They had always revered this mother as a symbol of the oneness of living systems.

In the Americas, many indigenous tribes developed distinct and individual codes of ethics, usually communicated by spiritual leaders through storytelling. One of the most revered legends, the Lakota story of the White Buffalo Calf Woman, predicted a time of ultimate interracial and interspecies connection. The story ends with the storyteller, a brilliant woman, turning into a red buffalo then a brown buffalo then a white buffalo calf after issuing this decree:

"…Now we are as one: earth, sky, all living things, the two-legged, the four-legged, the winged ones, the trees, the grasses. Together with the people, they are all related, one family." (9)

As the people in the tribal nations sat around the campfire under the night sky and taught their young to see the oneness of such an extended family, others under the same sky had a similar idea.

Many Moons Within One

The one Moon reflects itself wherever there is a sheet of water, "And all the moons in the waters are embraced within the one Moon."
– Yung-chia Ta-shi, (10)

Buddha walked out of his palace circa 500 BC and saw human suffering for the first time. Coming down out of the ivory tower changed his views about life, death and compassion. Once the Buddha began to truly understand the range of human feeling, he

could define empathy and contemplate how to transcend the human condition. Moving from a cloistered condition to a point of connection with the needs of humans changed the purpose of his meditative life.

One of the Buddha's followers, Yung-chia Ta-shi, penned the quote about the many moons.

This monk left room for translation. The quote could refer to the same philosophy appearing in many cultures at one time. We might also imagine the many moons as universal human impulses and instincts reflected in a common pattern of human development over diverse periods.

Can We Truly *Know* Until We Know Others?

Buddha's contemporary, Confucius, advanced his own ideas as a philosopher and a politician. He taught that benevolent leadership meant acting upon responsibility to others and preserving the best in human relationships. Understanding roles, not just rules, could advance civilization, he thought. Love could exist only with ethics intact. Honesty, trustworthiness, humility and sincerity would create a more truly human civilization than mere reciprocity.

Confucius defined altruism—the capacity to do good—as the quality that distinguishes humans above other species. He knew that this capacity required the same research we bring to any other topic: a bit of a deep dive to understand the one we seek to guide, assist, teach, serve, soothe, or honor. He prized the act of reaching out beyond ego and personal desire to understand another. After all, how can compassion grow unless we observe the life, the emotions, and the thoughts of the one affected by our efforts?

Confucius stated, "I am not bothered by the fact that I am unknown. I am bothered when I do not know others." (11)

Finding a North Star

The profound thought Confucius offered more than 2,500 years ago maintains its relevance, suggesting something innate in the experience of modern mortals. Truth remains as the earth spins in orbit, making time and space impervious to universal realities of human motivation.

Confucius saw the instinct to act on behalf of others as the

expression of true character. As Wei Zheng wrote: “If you govern with the power of your virtue, you will be like the North Star. It just stays in its place while all the other stars position themselves around it.” (12)

Virtue, then, does not serve as an entity unto itself. It always appears with an action verb (e.g. to govern, the know others, to feel satisfied when poor, to correct mistakes). To act with purpose meant to lead a thoughtful but active life, to the philosopher Confucius.

Even the Taoists, known for a philosophy of harmony with nature through inaction, have developed community guidelines, including altruistic models of thinking and social interaction “that teach people to think like the Dao itself.” (13)

The purpose of refraining from intervention in human or natural affairs, on the contrary, arose from the view that intervention, more often than not, proves destructive for the Taoists who questioned whether to act or not to act. The fact that they arrive at a different conclusion than a particular teacher of another philosophy did not necessarily imply a different motivation, only a unique perspective.

While Chinese philosophers Lao Tsu, Chang Tzu and the Taoists had recommended inner peace and harmony through contemplation, Confucius honored the human connection by encouraging people to think, to teach, to act. (14)

Three Greek Thinkers

In Greece of the fifth century BC, three highly influential Greek philosophers entered the world stage. See if you can determine any thread of continuity between their search for meaning and those of the earlier thought leaders.

First, Socrates *encouraged questions* as a tool for examining the morality of a concept such as justice. By breaking down a question into a series of replies, he could lead his listeners to a point where they would logically solve a moral dilemma.

A few years later, in 427 BC, Plato appeared in Greece. After a short stint as a soldier and a brief dip into politics, he decided that war could not change society. Having the advantages of an elite education and access to libraries, he instead began writing his own

thoughts as a philosopher. Inspired by what he called the Socratic Dialogues, he conducted his own examination of human virtues in a series of many written dialogues. These documents influenced not only the thinkers and mystics of his time but many later generations of educators and ethicists.

The third philosopher in the Greek pantheon, Aristotle, a student of Plato's Academy, proved even more prolific than Plato. He expanded his range of subjects to include science; especially logic, physics and biology. Only 31 of his 200 treatises still exist. Biographers divide Aristotle's writings into theoretical, practical and productive bodies of work. A Stanford University biography stated:

> The principles of division are straightforward: theoretical science seeks knowledge for its own sake; practical science concerns conduct and goodness in action, both individual and societal; and productive science aims at the creation of beautiful or useful objects. (15)

You might say that Socrates asked people to examine the moral motivation behind an issue; Plato gave them a measuring stick for the examination; and Aristotle challenged them to seek, act, then apply their conclusions to beautify the world.

Do you see any parallels between these Greeks, the Africans, the Americans and the Asians (Buddha, Confucius and Lao Tzu)?

Inspiration Wears a Human Face

The Far East shone a light on the desire for purpose, and the Greeks gave it a lot of thought. Meanwhile, the mystic poets of the Middle East turned every altruistic concept into poetry. Some of their writings shared the idea that perhaps the emptying of self did not occur as the desired outcome but more as the *prerequisite* for connection to others.

In metaphorical verse, the *beloved* often referred to divine love of God or sometimes to altruistic action. In one story, the lover runs after truth and finds the object of his desire (truth) in his own back yard after a great struggle and sacrifice.

In this poem by Hafez (1350-1390), the reader could interpret Truth and Love as abstract concepts or as existent in the messenger who brings them:

The Truth has shared so much of Itself with me that I can no longer call myself a man, a woman, an angel, or even a pure Soul. Love has befriended me so completely it has turned to ash and freed me of every concept and image my mind has ever known. (16)

Think about the role of anthropomorphism (giving a human face to things not human) among the Persian poets. Does the value of the human bond surface in the metaphors and symbolic language chosen by the poet? Here the word “love” presents itself as a friend. A nation’s most revered poet used friendship, then, as a symbol of essential purpose.

This mystical tradition emerged from a region of the world where theocracies reigned. Religion comingled with government. Spirituality prompted every action in the social order. Before monotheism began, the people spoke of many gods in Mesopotamia (Sumeria) and especially in early Egypt (in Northeastern Africa). Egyptians treated pharaohs as deities, capable of protecting them from disaster. They honored these half-human figures, the pharaohs, by allowing them to repose in technically and artistically magnificent pyramids, surrounded by gifts, after death.

Without the benefits of modern technology, they built behemoth monuments that still stand today. The adulation of the people for the pharaohs thus inspired architectural feats of unimaginable proportion.

Without attributing the human quality of protectiveness to these demi-gods, and responding in kind, do you wonder whether the Egyptian architects would have gone to all that trouble?

Perhaps the quality of devotion to a human leader, instead of a golden calf, played a role in their loyalty. When faith was later introduced to religion, divine devotion was expressed more frequently through love of humanity, as a follower became a shadow or servant of the unseen protector.

Religion Expands the Family Circle

This move toward monotheism brought increased emphasis on human interactions in diverse regions. In 3228 BCE, Krishna made a shift in India’s consciousness with the perception of humans as spiritual beings. Far

away in Mesopotamia, in 1946 BCE, Abraham laid the foundations for a succession of monotheistic world religions. The first of these, Judaism, urged people to practice sacrifice, basic civility, fairness and respect for family. In 628 BCE, Zoroaster came along in northern Iran, with a religion that emphasized good thoughts, words and deeds, along with the constant search for light.

The Zoroastrians recognized Christianity, which challenged people to take a step forward and not just avoid killing but actually love one another. The scriptures commanded: “This is my commandment, that ye love one another, as I have loved you.” (17)

Muhammad, who honored those previous faiths, came 610 years later. He played an historical role in advancing diplomacy not only among neighbors but neighboring groups of people. He promoted charity and almsgiving while increasingly emphasizing literacy and truth seeking. The mosque became the school. Surgical advances took root. Replacing Greek with Arabic texts, instructors taught mathematics, chemistry, engineering, agriculture, and medicine. This scientific revolution laid the foundation for the Renaissance.

In 1844-1863, two more religions, the Babi and Baha’i Faiths, honored previous guideposts on humanity’s path but also challenged the widening of the circle of humanity, to harmonize all ethnicities, nationalities, genders and faiths in an “indissoluble bond.” (18) Love your neighbor now included your global neighbor:

“The earth is but one country and mankind its citizens,” wrote Baha’u’llah. (19)

In this progression, we see a pattern that began in the womb of that infant whose heartbeat throbbed at the sight of human features. In the education systems devised in the theocratic Middle East, although prejudice persisted, a gnawing desire to unite an ever-broadening human family pulsed within the fractal pattern—a pattern whose shapes we now see in the data models that show improved health, well-being and peace from one decade to the next.

Influences in Southern Africa

The Dark Ages in Europe proved a golden age in Western Africa in many ways. Some of the earliest

civilizations thrived south of the Sahara.

At the fall of the Roman Empire in 476 A.D., people in these African kingdoms had learned to create iron ore, to improve their faming tools, and to use the canals to connect people living in towns of increasing size.

Forty kings ruled in the area known as Ghana. They mined and traded with Northern Berber societies. They passed the reins of leadership peacefully without conflict or civil war.

What do you think motivated their benevolent governance?

Most Africans had remained true to their original faiths, even when Islam came to Songhai, 1029 years after Christ. At that time, the Mali kingdom turned to diplomacy and unity rather than use force and domination to resolve its challenges. It took time for the Fulani people and the Songhai people to argue over the throne and create a time of political rivalry once again.

Over the 15th and 16th centuries, the Asante kingdom of the Akan people thrived in current Ghana. In Niger, small states such as the Igbani and Warri states found success because of their ability to band together and to provide a "middleman" in commerce.

In Lesotho's original Basutoland, King Moshoeshoe offered one of the best examples of educational leadership in the 1800s because of the empathy and protection he offered when the Zulu king split the country. As a far-sighted leader, he chose to merge the customs and ideas of the various refugee groups rather than cultivating opposing factions. He looked for what the people had in common rather than teaching them to emphasize differences. He offered the same open-mindedness in his collaborations with the West, even though he sought and regained independence from Britain after a 16-year period of annexation. (20)

Other examples arose in African history of leadership that inspired the basic instincts inherent in the education of children.

Nelson Mandela taught humility and the art of unity. He learned to reach across the aisle—and both the tribal and racial divide—to create human bonds, not just through education but through life experience. He demonstrated patience and sacrifice for these ideals. His life proved his best

example, according to the thousands who revered him.

According to your understanding, when has your local or regional history produced thriving societies and economies? Did periods of unity and bonding bring longer periods of economic sustainability than periods of conflict based on one group's domination over another?

Acting in the Interest of Society

The European Renaissance of the 15th and 16th centuries brought a surge of interest in the arts and some early examples of integrated education. The concept of Humanism emerged during this period.

Focusing on studies of history, literature, the arts and moral philosophy, Humanism aimed to create learners whose intellectual excellence helped them respond honorably in all scenarios.

Transcendence in death would come to them through education, the Humanists said. Throughout the sixteenth century, this pedagogy influenced educators, clergy and professionals in law and medicine. Although the schools reserved only a few spaces for the poor, and girls could not attend school, the boys who received a Humanist education understood their role: to improve the lives of the citizens and to help their communities. (21) Here, once again, the concept of honor centered on responsibility to uplift others in society.

The Enlightenment intellectual period of the 1700s developed to advance the use of individual reason to improve the human condition, giving birth to the ethics movement.

Knowledge and happiness depended on some personal freedoms, according to the European thinkers of this period. Scientists and philosophers such as Galileo, Sir Isaac Newton, Descartes, Voltaire, Martin Luther, and many others wanted to integrate their religious background with their ability to research science and come to their own conclusions.

John Locke thought of the mind as a blank slate to write upon and had great optimism about the motives of people to act with honor. Some thought Thomas Hobbes went too far. He viewed humans as concerned mostly with their own personal self-interest. This cynical view had its drawbacks, but he did promote

equality and said that everyone should have a say in government that truly serves society. This idea has lasted and, together, these two influenced trends in governance.

Over time, the combined strength of hope, faith and reason left intact the idea that humans care about one another and about the ideal of history as a record of society's exercise of free will for the common good. This trend influenced societies over the next two centuries. Those who resisted authoritarian regimes and created new systems of order hoped that people would willingly act in the best interests of everyone in society. (22)

A Brief History of Education Reform

A surge in technology fueled new needs during the global Industrial Revolution. Suddenly, mining, manufacturing and engineering meant people moved to larger cities. Workers needed new skills. Schools opened. Teaching strategies had to marry the cultivation of literacy with long-held traditions and universal values and ethics.

Educators floundered to create effective schools in the 1700s but continually revised their plans over the next two centuries. Several educational reformers appeared whose movements caught on. Their learning models varied. (23) See if you can identify a unifying factor among them:

1796 Horace Mann (America)

The founder of the Education Reform Movement in America, this senator founded the first state board of education in 1837. He brought moral leadership to education. The Antioch College system, founded in his honor in 1859, bears a quote that captures his philosophy: "Be ashamed to die until you have won some victory for humanity." Another contemporary, Catharine Beecher, also reinforced the schools' responsibility to focus on moral as well as intellectual education. She also encouraged women to enter the field of teaching because of their gentle nature with students.

1861-1925 Rudolf Steiner (Austria)

Rudolf Steiner, a social reformer of his time, determined to educate "the whole child." He associated certain cognitive, social and emotional features with each age level and devised the Waldorf approach with its fixed curriculum.

Rather than customize learning for each community, Steiner's program replicated precise curriculum materials for students regardless of location, including a set of songs and stories that cultivate imagination but limit exposure to science, problem-solving and world issues. The model was designed to reduce outside stresses and allow children to flourish as children. One advantage is that teachers move up the grade levels with children, to build strong learning relationships.

1861-1947 Alfred North Whitehead (UK)

The philosopher Whitehead developed "A Living Educational Theory (Living Theory)." Commonly associated with "process theory," aesthetics, and the idea that change is a constant in the universe. The motivation for education, he said, rests in experiences "that carry hope for the flourishing of humanity." (24) Process theory influenced the ANISA model and informed most of the experiential learning strategies in use today. Whiteheadian movements caught on in higher education not only in the West but the Far East.

1870-1952 Maria Montessori (Italy)

The Montessori model relied on the idea that the child will act on an inner desire to learn in a proper learning environment. Predictable developmental stages would benefit from specific learning environments, according to Montessori, who downplayed the role of the teacher. Given independence and the proper tools, Montessori said, the child will learn to contribute to the actions that benefit the group, while developing exploration skills as an independent learner. For example, she presented opportunities for children to serve one another at mealtime, as even the youngest children set and cleared tables together. Children had a good deal of free time and a loose schedule.

1921-1997 Paolo Freire (Colombia)

Freire criticized views that emphasized social transformation. He instead saw education as a means for revolution and overthrow of the dominant ruling group, promoting negative input and revolutionary change. He posed the purpose of education as that of applying critical thinking

skills to solve problems created by an oppressor.

Ironically, the protest-related aspects of Freire's theory run up against a cynicism and empathy depletion that have impeded the model's relevance in many global settings, but the strategies such as action, reflection and problem solving have become popular in many educational models of the 21st century.

1983 Howard Gardner (USA)

Gardner outlined the distinct modalities of human intelligence through which we access our peak experiences: linguistic, musical, spatial, /kinesthetic, intrapersonal, interpersonal and logical/mathematical. Educators ever since have emphasized the importance of integrating and these interdependent, innate capacities as we design learning opportunities in the classroom. Although he developed the theory in 1983, in 2009 his experience led him to add existential and moral intelligence as modalities through which we experience learning.

1987 Emilia Reggio (Italy)

After WWII, Parents in an Italian town called Reggio Emilia wanted their children to learn the collaboration and critical thinking skills to create a democratic society. Their experiment eventually resulted in a pedagogy for early learners featuring constructivism (building new knowledge based on prior learning). Children have free time in a relationship-driven environment.

1992 Full-Circle Learning (Global)

Full-Circle Learning theory emphasizes the premise that improving the well-being of the human family activates a sense of purpose and creates parallel layers of transformation in the learner and in the broader community.

Scaffolded learning units integrate character goals as the impetus; local and global action as the outcome; and creative/cognitive processes as the vehicles moving in between. Learners experience the impact of their learning on other living things.

Teachers experience purpose as they apply research-driven universal principles while customizing the model to local customs, community challenges and educational standards.

If you were to compare some of the educational models of the past century, you might ask what a teacher would do if given a set of Tinker Toys to incorporate into a lesson plan.

Quite possibly, a Montessori or Reggio teacher might set them on a table and allow children to use them during their leisure time.

A Waldorf teacher might construct a bridge with them to illustrate her story about a fairy and a troll.

Maybe a Freire teacher would use them as a replica of a social structure and let the group decide how they want to dismantle it.

A Full-Circle Learning teacher would use it in the introduction to a unit plan, asking students to use the sticks and pegs to construct an H2O molecule, then to imagine the value of that bond between the hydrogen and oxygen atoms as they unite to sustain all life. This Unity introduction might lead to a water sanitation or conservation project, for example.

The perspective on motivation thus affects the construction of the strategies, materials, classroom design and classroom management.

The Unifying Factor

In the world of global thinkers, we respond to a set of inherent philosophies, planted by neurological tendencies, life experiences, shaped by evolution and reinforced by culture. These often appear as philosophical bents.

Despite their seeming differences, when we look deeply at how they have each evolved over the years, we see a common denominator threading through most philosophies. Each reformer worked to lay a foundation of purpose under the model's proponents, driven by their understanding of how and why to pursue a meaningful life in the context of their time.

Each of these models varies somewhat in its methods, tools and even its acceptance of the stages of childhood development. Still, if we observe their unifying

element, we see that each one accentuated some aspect of human relationships – either by posing a challenge to serve society or by creating closed circular communities within the school or through peer-to-peer and/or peer-to-community bonding experiences. The differences lie mostly in the interpretations of the application.

When education became a formal practice, it could not effectively divorce independent intellectual growth from the basic motivation to experience the effects of learning on and with another human being.

Educators sensed that they must respond to this basic instinct that successful African societies learned and that the Asian philosophers noted and that Western thinkers toyed with and that the Middle Eastern mystics hinted at: People want to see the impacts of their learning expressed through processes that touch, delight, heal, help, evoke emotion from, or in some way benefit other humans.

Whether through the written languages of the learned or the oral stories of the first humans and their developing brains, humankind seemed to understand that no singular person could step onto a path of learning that did not have at its core some benefit for others on that path.

Consider the innate impulses or talents defined by Howard Gardner as multiple intelligences (musical; mathematical; kinesthetic, linguistic, spatial and interpersonal and intrapersonal). “An intelligence,” he as he defines it, “entails the ability to solve problems or fashion products that are of consequence in a particular cultural setting or community.”

Gardner does not profess these to be scientific distinctions but, rather, observations about favored learning pathways. Each intelligence involves a core set of operations subject to encoding through symbols. (24)

Beyond these, learning styles and personality types influence the expression of talents as defined by psychologists and sociologists. Myers & Briggs has help countless adult readers understand their own learning styles and thereby, better understand the 16 possible profiles of their students or employees.

Similarly, Oscar Ichazo and Claudio Narranjo, drawing on the

work of George Gurdjieff, went on to popularize the Enneagram to define nine personality types.

Whether or not science can definitively classify the snowflake-like individuality of the human experience and the variable responses to its interpretation, each of us knows our own propensities well enough to understand that the earliest inklings of a workstyle and career began with a desire that both nature and nurture conspired to instill in us.

Seeing the Child's Motivations

Looking into a child's eyes, we can sometimes see the future. Watching them play, we can sense the capacities and instincts of the future engineer, musician, teacher and leader.

Self-exploration drives people to want to know *why* they do what they do and *how* to make life choices that best utilize their capacities. It can also help us observe children and understand their motives, not just their tendencies, with a greater level of sensitivity. It can help us provide context to trigger the innate purpose behind the tendency.

For example, we see three children working together to construct a tower with blocks. We ask about their work. One remarks that they are building a castle to keep a princess happy and selects only the most colorful blocks for the castle.

The second one denies this and says this tower is a replica of the building across the street with the helipad on top. This child starts to form a Lego helicopter, zooming it over the tower. We now approach the seemingly disengaged third child, who dropped out of the game to weave paper strips at a nearby table.

Gazing out the window, this child noticed that the building with the helipad is a real hospital and began weaving blankets, in case the children in the beds feel cold.

While teachers might have created a space where their unique genetic tendencies, or "intelligences" and personality-based learning styles could play out, two questions beg us look beyond these coded systems.

How did each child act on his or her own instincts, thoughts and tendencies in search of a path toward useful purpose outside of self? Did each type of play uniquely respond with empathy to the needs of others?

Stitching Instinct to Action

All three children in the story brought empathy into their own modes of creative play, but driven beyond fantasy or technology, the third child especially understood a creative response to real-world needs.

An astute teacher, observing the three types of students, might tell a follow-up story about helping the ill, following up with a real blanket-making activity for the children's hospital and a toy drive that allows the others to sacrifice planes and dolls if they choose to do so. Allow everyone to apply some version of genuine altruism.

Moral Responsibility and Research

The need to deliberately encourage our own best instincts and skills dates back as far as mortals determined the need to advance civilization

Travel a hundred grandmothers back in your mind, and you will see people happily pounding stone into dirt. The purpose of laying these stones tightly together resulted in the first cobblestone streets that carried the earliest vehicles, thoroughfares that remain in the world's oldest cities today.

The artistry of so many efforts went far beyond survival to preservation of a human bond – to carry messages, marriages, and men and women from one point to another.

Over time, the search for meaning continued to evolve as the sophistication of the tools increased and transcended not only physical boundaries and cultures but also disciplines, spilling from religion and philosophy into the arts and sciences.

The relationship of discovery and humanitarian concerns drives many students of the sciences today. In 2018, the Nobel Committee stated:

This year 12 new laureates have been awarded for achievements that have conferred the greatest benefit to humankind. Their work and discoveries range from cancer therapy and laser physics to developing proteins that can solve humankind's chemical problems. The work of the 2018 Nobel Laureates also included combating war crimes, as well as integrating innovation and climate with economic growth." (25)

This tradition follows a pattern of more than a century. At this

writing, 23 Africans have received Nobel prizes across multiple categories. The Nobel committees conduct their research in secret and select candidates in each field, so no one can compete for the prize.

The Nobel Laureates in the sciences will tell you that the applications of the research passionately consumes them, whether their grants come from the National Science Foundation or the National Institutes of Health. The prize commends their *intrinsic* drive to apply research toward the common good, rewarding them with *extrinsic* rewards to free the researchers to focus on their work.

Character and Destiny

Consider the tale of a particular student who turned his life around. Young Alfred Nobel, as a child, struggled to find an appropriate purpose for his instinct to explore. As the son of a gunpowder manufacturer, he experimented with any chemical substance he could find, including his father's powder, at one time blowing up his own house. Eventually, he invented dynamite and marketed it to countries at war, creating an economic empire for himself.

As an elderly man, Nobel became ill with heart disease. His doctor told him to take nitroglycerin, but he refused, thinking it would blow up inside his veins because he understood the scientific process involved with nitric oxide from his experiments.

One night, he had a heart attack. A horse and buggy arrived at his home and took him to the hospital. His neighbor, a journalist, heard the commotion and looked out the window. Watching him go, the neighbor penned his obituary, thinking Nobel had died that night.

The next morning, the famous scientist woke up in the hospital to read about his own death, with a headline calling him the "master of destruction." Devastated, Alfred Nobel realized he had used his scientific skills to take lives rather than to bring life and benefits to humanity.

Nobel secretly called in his legal advisors and set up a fund, asking that a committee form to award annual prizes in several categories of achievement. The Nobel Committee first granted prizes in Chemistry, Literature, Peace, Physics and Physiology or Medicine in 1901. The prize in

Economics was first awarded in 1969.

The chagrined scientist wanted to honor the greatest humanitarian achievements of humankind. He set up the plan to begin after his death, intended to provide at least one million dollars in each category for at least 100 years, funded by the interest from his bank accounts. The committee's researchers, housed at various institutions, would designate each year's recipients.

On the 100th anniversary of the prizes, a century after Nobel's death, the prize in medicine went to Lou Ignarro for discovering the principle that would have helped Nobel understand the properties of nitric oxide in the bloodstream.

Thankfully, science did not yet have the information a century earlier, in Nobel's time, or we wouldn't have this story of redemption. Nobel's understanding of the best motivation for the creative instinct came late but accomplished more good, in the long run, as a result.

For the Betterment of Humanity

Other scientists of the period also struggled with the same dilemma. After Edison invented the light bulb and moved on to market other inventions, his young partner wanted to strive first for inventions for the common good. He broke away to find his own niche in history. This young Nikola Tesla, the Serbian physicist and engineer, became known for his passion to develop wireless lighting and electrical power. He invented the modern alternating current (AC), which made hydropower possible throughout the world. He cautioned colleagues, "science is but a perversion of itself unless it has as its ultimate goal the betterment of humanity." (26)

Modern scientists continue to acknowledge the moral responsibility of scientists. Ryan Campbell, in his 2016 PhD thesis, documented the trend among engineers to choose humanitarian projects, writing:

Engineering and technology have changed the lives of many on this planet. However, technical solutions are not the value-neutral panaceas we might imagine them to be. If we engineers are unaware of the values driving our efforts, we are unlikely to create lasting solutions to the problems we hope to address. (27)

Tracking Trends

Consider the impact of history, culture, religion and socio-political activity on your own community. With your learning partners, evaluate the changing trends in your lifetime. Record your insights on the chart that follows.

Informal Community Research

Category	Your Estimated Percentages from Childhood	Your Estimated Current Percentages
Families Who have Lost a Child		
Families with Children Who Read		
Homes with Resources (water, electricity or internet)		
Percentage of Population Affected by Violence		
People Cured from a Life-Threatening Disease		

1. Quickly estimate the percentage or number of people in your area affected by each trend over the past 30 years (or the time since your childhood), based on personal experience, research, and/or recollection.
2. Compare your chart with those of colleagues. Do your perspectives align? Collectively adjust your data.

Discussion

Since you were born, have humans made improvements to your community?

Have you observed a sense of purpose among any teachers, workers, decision makers, engineers, citizens, planners or leaders along the

way? Has each group applied their skills in a way that connects them to human progress? If so, how?

Compare the global results at the beginning of the chapter with the changes in your community over your lifetime. Do you think education has influenced these trends?

Has technology helped and/or impeded human relationships and progress?

Do you attribute positive trends to an innate inner aspect of the human drive to improve society?

How have human relationships motivated your own learning over these past decades? Discuss your ideas with your team.

Section IV. How We Now Connect

Evidence of Joy in Learning

When teachers explore their common vision and purpose, they design the nucleus of a system that radiates joy for the learner and opportunities for the entire learning community. The human connections incubate in ways we cannot always see immediately but whose full benefits appear over time.

The camaraderie of the teachers lays the foundation for a system in which classroom relationships also thrive.

The circle of recipients who receive the impact of service-learning in the broader community creates another pattern. The learners benefit from these connections in both the short and long term.

One independent study assessed the academic skills of a small sampling of Full-Circle learners, each year over a five-year period. (1)

Experiencing the Full-Circle Learning model of education for two to three hours a day, 75% of these second- through fifth-

graders increased their grade equivalency in math, reading and vocabulary over the first six-month period.

Of those who remained in the study for two or more years, 50% enhanced grade equivalency by two or more grade levels. (In other words, a child enrolled in the first month of the fourth grade might

perform at the level of a sixth-grade learner in her eighth month.)

Two more schools assessed the integration of learning and life skills in the years that followed. Using a combination of parent surveys, student-self-surveys and teachers' records, these schools documented continual enhancements in student growth. (2)

Characteristics of Learning and Growth

Family members in these schools noticed that children who applied their creativity and their learning to brighten the path of others suddenly wanted to learn even more. After one to six months in these sample years (2007-2009), parents responded to anonymous surveys about their children, expressing various enhancements beyond their expectations. The highest increases occurred in the following categories:

Motivation to learn	*89%*
Sense of joy in helping or serving others	*90%*
Capacity and/or interest in problem solving or critical thinking skills	75%

The relationship of these three items, as the highest-marked categories during that period, underscored the relationship of empathy-based cognitive action and motivation.

You might wonder what the teachers did to bring the learning to life. In addition to exercising collaborative learning strategies that encourage altruistic identities, each of the schools conducted at least four major community transformation projects—some local and some global. Three examples from that period follow:

Keeping the Rain Out and the Love In

Students practicing the habit of sacrifice held a wisdom exchange with a partner school in a distant country where students did not speak the same language.

The children in the partner school lived high on a mountain, where their leaders faced the challenge of building a remote school. To understand these challenges, the teachers at the city school first helped their students build a treehouse "to keep the love in and the rain out." Next, they took the students on a bus outside of town and led them on a long walk up a local hillside. Townspeople had

pledged small coins for every kilometer/mile they could walk or for every book they could read that month. The children each received a scarf, a pencil and other gifts for climbing the whole distance.

The students had a chance to sacrifice their gifts for the children in the distant country. They also gave the coins they had made walking and reading, so the distant school leaders could get the materials needed to furnish their school. The wisdom partners in the high country sent pictures showing how to construct a school from rocks and tree limbs. The children in the city learned about sacrifice as well as resourcefulness and creativity.

Advocating for All

Students in one school studied the species indigenous to their area. They learned which ones resided around a local lake and which ones suffered or thrived based on the water level at the reservoir there.

Each student represented a different species or population group. They gave speeches representing the needs of that group. The class voted on which species to favor with protected acreage around the lake. Based on these votes, each student turned a sheet of graph paper into a blueprint of the lakefront, redistributing land use options to accommodate the needs of all. They decorated and presented their blueprints to the park official, along with songs, original poems, and drawings of the species. He found their input so helpful that he invited them to the lake for a swim. Their teacher explained that they do not accept such invitations without giving service in return, so they would spend a day cleaning the shoreline of trash.

Marrying Purpose and Potential

Stephen Pinker, in his book *How the Mind Works*, described the way the brain develops a sense of meaning by layering complex ideas from simpler parts or construing “the meanings of the parts and the meanings of the relations that connect them” (3). By speaking about our experiences, we grasp complex scientific concepts that lead to advances. He maintained that while the philosophers ask questions unprovable by design, most problems do find their answers through this process of self-talk.

By applying the same principle, we can ask learners to deliberately compartmentalize and then reconnect their ideas about the meaning of their learning experiences. We can do this within an activity and recommend always doing it at the end of an integrated learning unit. (In a learning unit, we call this the Sustain It step.)

For example, one activity challenged students to complete a graph imagining the impact of their life choices on the character-based unit they had just studied. They drew a stick figure in the bottom left corner. Applying their learning through a chosen profession, they responded to incidents the teacher called out, drawing a line upward and across the graph.

One young student had grown up as the son of a migrant farmer who had to leave school after fourth grade. This son struggled with the obligation to stay at home and help his family or to follow his instincts and become an engineer. For the purpose of the activity, he drew himself as an engineer. The teacher said, hypothetically, "You've stopped by the road to help someone repair a piece of machinery about to drift onto the road, where a man and his sheep would have been hurt; a village depends on that man's wool;" Or, "You've just designed a new safety feature for the local factory, saving 40 lives, among them a teacher, a doctor, and a benevolent politician. How many lives will they improve?"

The boy numbered the lives affected and drew his line higher and higher on the graph. He quickly saw that his life as an engineer need not remove him from his sense of duty to family—but could enlarge his family. By the end of the activity, he vowed to become the first engineer in the class and in the village of immigrant families. As a result, he sought out many mentors in high school, but the teacher first saw his sense of purpose catapult during that initial reflection step.

This young man continued to respect his own father for working hard to raise crops that fed people far beyond their own family. Meanwhile, the satellite technologies he designed as an engineer, just a few years out of college, helped identify drought areas around the world, to address climate-change related water shortages for the whole human family.

The Value of Deliberate Linkages

Teachers ask students to weave the threads of their objective and subjective results, to answer their own questions about the purpose of learning. In one of the schools described here, teachers surveyed 11-13-year-olds a year after they experienced the transformation activities previously described.

The survey results revealed the extent to which the learners related human needs with their own personal goal-setting plans. A full 100% of students said they had:

1. become more aware of opportunities and reasons for empathy
2. stated their convictions to someone in the community
3. learned about new opportunities they wanted to explore; and
4. applied their skills in writing, science, math, translation, music and/or art to achieve these goals

The route from empathy to action led directly to the motivation for future planning, not only in their checked boxes but in their personal comments.

On a field trip to a biomedical plant later that year, an adult taught these students to design packaging for a product to cure an illness. The presenter asked what images on the box they thought would generate the highest sales revenue. One boy responded, “That’s not what we’re here for! We’re here to help people. Let’s create packaging that shows how the substance cures the disease.” He knew what Nikola Tesla had learned: When your intentions come from the right place, success will eventually follow.

Global Communities Report Long-Term Impact

Full-Circle Learning conducted a community impact study among selected schools that applied its practices for 10 or more years in four countries, seeking to understand the nuances of long-term learning leaders' approaches to creating effective results.

Schools in six different countries participated in the interview-based study, focusing on strengths, challenges and results reported by administrators, teachers and students. Locations included Monrovia, Liberia; Piru, California; Mokhotlong, Lesotho; and Hangzhou, China; and Djamena, Chad, and Lusaka, Zambia. (Two leaders' papers will appear in the Appendix.)

At the most successful schools, creative teachers worked in teams to embrace a common vision, showing an understanding of the intentions of proven strategies while customizing their unit plans' projects to the educational standards and social transformation needs of their communities. Learners felt the benefits of an ever-widening human family, processing their learning experiences person to person, community-wide and nation to nation. Completed in 2017, the interviewers catalogued the most commonly used phrases employed by teachers, learners and learning leaders to describe their emergent life skills and the parallel academic benefits.

Acquired Life Skills Commonly Named in Community Impact Study	**Academic and Creative Benefits Commonly Named in Community Impact Study**
1. kindness 2. respect 3. service 4. connecting learning to habit-of-heart, patience 5. role modeling character 6. transformative decision making 7. inspiring (especially a teacher's special story)	1. academic improvement 2. relevant practice of what students learn, (examples: Ebola mobile schools and, as turning point; electricity projects in Zambia and Chad) 3. students change the way they think 4. academic growth

8. harmony-building 9. academics linked to character and service 10. could show love, resolve conflicts, community improvement 11. community impact 12. shifting away from abusive treatment toward kindness 13. cooperation with fellow humans, 14. greater awareness 15. more honesty 16. peace 17. working with people from all walks of life 18. collaborative play 19. parent involvement 20. honoring diversity, character, 21. creative opportunities linked to giving 22. intergenerational bonds strengthened	5. parent approval 6. leadership over time by multiple grades 7. purpose in learning 8. social studies and science applied to real world learning 9. all academics, arts applied to real world learning 10. science applied to real-world challenges 11. high academic expectations 12. independent applied skills in arts and academics 13. global projects 14. independent skills focus 15. creativity 16. awareness of how to solve world's problems 17. students conceive, believe and achieve as they master units

Maureen Mungai interviewed parents, teachers, administrators and students in some of the learning communities where Full-Circle Learning had existed for ten or more years. Here, a Liberian student thanked her for the visit while preparing to become a community health advocate.

Section V.
Worlds We Perceive

Transcendent Giving

Full-Circle Learning theory maintains that the moment in which a child exhibits spontaneous selflessness, *as a peak learning experience,* depends *not* solely on a fixed chronological stage of moral development but more on the *innate and nurtured* altruistic aptitude of the learner.

Two examples come to mind. In one school, students busily engaged in preparing birdhouses as gifts for parents. Three 11-year-old students walked in together, arriving late.

One boy been exposed to a learning unit on Sacrifice and on many other integrated learning units for the previous six years; the second student had only studied at the school for three months; the third student was new, arriving on his first day.

The first boy said, “Sorry we’re late, but we were showing our friend around. He’s ready to join in.”

The teacher said, “Welcome to all of you! I didn’t expect so many students. I’m sorry we won’t have enough birdhouses, but now someone will have the opportunity to sacrifice.”

The first boy quickly demurred, bowing slightly and stepping back. He put his hands together as if praying and said, “If you have a piece of paper, please, I would like to write a poem for my mother instead. She will like that gift. I am happy to sacrifice the birdhouse I would have given her.”

(Young Jesus and painted a birdhouse as a gift at Rancho Sespe)

As this took place, the second boy, with less classroom experience influencing his choice, sat down, wringing his hands on the table, with a twisted face. “Oooh,” he said. “This decision is *sooo* hard. Can I think about it for a few minutes?”

Meanwhile, without missing a beat, the third and newest student grabbed the birdhouse and ran out the door as fast as he could, never to return to class that day. No one knew whether the birdhouse ended up in the hands of his family members or not.

Saturation — or lack of it — had steeped whatever natural impulses resided in the character of the three young hearts and minds.

The second example took place in one of the finest Full-Circle Learning schools I have seen, at the Zhejiang Normal University-affiliated school in China. The children had recently practiced the habit of sacrifice. One little girl had been ill on the day when they prepared special gifts of art. When I visited the school, the children ran up to offer their gifts, individual drawings about sacrifice freely offered. As the translator and I left the room and walked down the street, we heard the patter of footsteps running up behind us.

A tiny five-year old held up her packet of tissue sent from home, which children used at lunch time and in the restroom, as schools had no paper products at that time. She wanted to give her most precious gift, as she had no artwork. It was a highly important item she sacrificed. Because she had been absent on the day of the drawings, she wanted — truly craved — the chance to give something of even greater value.

I felt overwhelmed and hesitated, knowing her mother intended this tissue for essential purposes but ardently hoping her teacher had extra tissue to offer. The teacher inside me could do nothing more important than to bow down with

both hands and accept her sacrifice.

Nurture the Better Angel Inside

Not every child shows their better angel so clearly. In the early 2000s, when Superheroes dominated the entertainment choices of many preschoolers in the West, one mother presented a concern.

Her four-year old boy, steeped in Full-Circle Learning education, had continued to show signs of aggression, even though they constantly practiced the habit of peacemaking at home. The little boy would don a cap and leap off the furniture to attack imaginary figures, no matter how much she discouraged violence.

She designed a special learning unit for him as a result about the importance of peacemaking. The boy overheard her talking with great concern about his aggressive Superhero play one day. He came to her heartbroken and began to cry.

“Mom,” he explained, “Don’t you understand? Every time I do those things, I’m *saving* the people!”

At last she understood his intention. Shorter and smaller than his peers, he derived his sense of power from the physical archetype of the hero, the Superman who leaps from tall buildings to save a whole population from destruction or, basically, who replaces evil with good and cowardice with moral courage. His mother understood that society had not equipped him with an abstract way to depict moral choices. He felt impelled, instead, to act them out through the age-old exploits that symbolized the battle between good and evil.

In Carl Jung’s identification of the hero myths appearing across cultures, a weak, mortal figure finds strength through the help of an intermediary or tutor, guiding both individual and collective transformation. In the case of the child, his mother-teacher and his imaginary superhero figures helped him climb walls unaided and leap off tall buildings (household furniture) in a pursuit that helped him survive childhood with his altruistic identity intact.

Thoughtful education can go farther than mythology by offering time for flights of imagination and yet by ultimately informing children with authentic opportunities for altruism in the human world.

One of my favorite stories from a mother came in 2017, at the university where translators had spent many years creating Chinese Full-Circle Learning materials for early learners.

One of the editors in the translation department of Zhejiang Normal University, steeped in the Full-Circle Learning translations, had placed her three-year old child in a Full-Circle Learning classroom. The girl enjoyed nurturing from a teacher who emphasized awareness of the impact of simple acts.

This mother came into her own bedroom one evening and found the child sitting on the bed, where she had been perched for some time.

“What are you doing?” the mother asked her three-year old.

“Mommy, I’m sitting on the bed, to warm it up for you,” the little girl quietly explained.

The mother confided with a face bright with smiles and tears how much she had felt overwhelmed by her daughter’s loving act. This confirmed for her that her work at the university had paid off in the classroom experience of her own child.

I recalled the first day I visited that university’s affiliated kindergarten, where the staff room had a motto on the wall, written in both English and Mandarin. It read, “Work is love made visible.” The mother’s and the teacher’s work now manifest themselves in the quiet reciprocity of the daughter, who at age three literally gave all the warmth she had, out of purely motivated love.

How Do You Build an Angel?

The fragile tendrils of personality, as affected by DNA, embryonic events, early childhood experience, evolving patterns of education, and mysterious distinctions in personality and creative perspective, cannot overwhelm the universal impulse to *give*.

Groundbreaking research by psychology professor Lisa Feldman Barrett suggests a *constructed* versus a purely classical and evolutionary theory of brain development. Her research posits that the neurological footprint for emotions may not be as fixed as we think, writing:

“You perceive emotions without formal instruction, but that does not mean that emotions are innate or independent of learning. What’s innate is that humans use concepts to build social reality, and social reality, in turn, wires the brain. Emotions are very real creations of social reality, made possible by human brains in concert with other human brains.” (4)

(Katie, a teacher, hugs Rossana, a foreign exchange student from Vanuatu)

Imagine the implications of this research for education. As learners construct emotions around connective experiences, their instinctive aptitudes and their social reality can wire the brain toward new expectations about future experience.

The desire to connect with others comes quite naturally — even, it turns out, before birth. A researcher placed a monitor inside a mother and found that an embryo’s heartbeat picked up when its eyes saw the pattern of features on a human face rather than random shapes. (5)

(onhealth.com, 1/23/29)

Even an unborn child may be programed to love – not just to receive love but to give love. The whole world presents the scope of possibilities once life begins outside the womb and the child eventually distinguishes “other” from “self” and then spends several years learning to see them as “one” again, in the sense of having one common DNA and shared needs and destinies, especially if given the chance for educational projects that connect the child in sharing feelings, needs and solutions around the globe.

The prenatal attachment to a human face, reinforced by early nurturing to give and receive love, becomes an expectation that empathy has some association with the day to day products children create and the challenges they resolve. The emotions that foster the habit of altruism become wired into the emotional patterns of learning and life.

In observations of human development, researchers increasingly downplay the value of presenting moral choices as having neutral moral value.

Psychologists began to come to this conclusion in the 1990s. One had a client who decided to stop visiting his small children because he felt uncomfortable with their mother. Rather than just listen to his concerns, the psychologist determined that his role as advisor included reminding the man to cultivate empathy for these young children for whom he bore responsibility.

Whether building the foundation of one life or spurring the creativity needed for a thriving society that meets the needs of all constituents, triggering the most positive human instincts benefits everyone.

(A school in Zhejiang Province celebrates regularly scheduled Dad’s Days.)

Stories that Mattered

The community-based psychology movement followed a parallel trend in Nineteenth and Twentieth-Century literature — a drive to ensure that the writing discipline acknowledges its relationship to human behavior.

Over the past few centuries, philosophers and writers have tried to imagine a Utopian society. First, the parables and storytellers from oral cultures disseminated wisdom.

(Dickens)

The pioneers of proletarian literature, such as Charles Dickens and Victor Hugo, defined the struggle of the poor and the need for inner strength to overcome greed.

Tolstoy, in his latter career, cast away what he called trivial concerns and devoted himself to questions about the meaning of life and the role of the individual in solving the problems of the masses. He gave away his wealth despite the 13 children he had to feed, aggravating his wife but endearing himself to the people who valued his wisdom as the greatest novelist of his time.

Upton Sinclair and John Steinbeck, with his wife's interest in the displaced farmers, later followed suit. Nineteenth century writers such as Bellamy, crafted novels to describe utopian societies which set high hopes in the collective goodwill of the electorate and tasked all citizens with conscripted work suited to their talents and early retirement to pursue their interests.

Mystical questions of Kant and Swedenborg, gave way to the Transcendental writings of

(Fuller)

Margaret Fuller, Emerson and Thoreau. This baptism by immersion into oneness with the natural world, a lifestyle well known to ancestral peoples, found new life in literature. Raymond Burr has compared this environmental movement to a kind of Taoism.

Science fiction writers alternated between capturing dystopias and utopias to study human behavior, and satirists held up a mirror of caution.

(Achebe)

George Orwell and William Golding wrote metaphorical tales describing the easy slide into fascism if leadership fell into the hands of those exhibiting the darker aspects of the human condition. African novelists such as Chinua Achebe also led us to grapple with dark dilemmas, while Camara Laye helped us see the good in both the past and the future in our search for a benevolent motivation.

In each of these cases, the writer strived to evoke emotions in the reader consistent with the perils of the time and the hope for an alternative reality.

Emancipators such as Nigeria's Nana As'ma and Persia's Tahirih imagined a world in which the literacy standards of women would raise the standards for all. Morality and change became inextricably linked.

(Nana As'ma)

An inherent and constant thirst for new information urges us to feast on bad news more often than good, but just as the body becomes ill from a diet devoid of nutrients, so does the soul.

Today, the threat of climate change has made for an even more consistent global narrative of urgency for change.

We have learned that the darker statistics have frozen people in action. Hope that change can occur and that a region, a town, a place, a person will thrive because of our efforts produces a greater likelihood of change. Cynicism has produced only inertia.

Perhaps idealism remains our most precious human resource.

Left to their own instincts, children crave to give love, expressed through every avenue of learning at their disposal. We must help them give it.

Creativity and Motivation

Key questions about the nature of beauty and creativity invite dialogue between students of anthropology, philosophy and education. If humans are the only species to perceive and to interpret aesthetic beauty, what is the purpose of this “sixth sense”? Does it support a universal search for mystic meaning? What role does creativity play in motivation and collective well-being?

A mother recently stood with her three-year old son on a stretch of beach where he named the colors of the natural wonders around him, as well as the colors in his clothing and skin. He compared his own skin to his mother's, of a different hue. Suddenly, he asked," What color is God?" Quickly, he answered his own question: "Purple! And red and green and black and brown and pink and."

A child's understanding of an unknowable essence or a divine Creator often comes first through awareness of the panoply of colors in a flower garden, a sunset or a forest in springtime or a hillside in fall. The perception of beauty itself seems to benefit from opportunities to observe, appreciate and replicate nature.

One year when our children were babies, my sister and I decided to drive to a family reunion. We borrowed our father's old once-reliable car to travel through a gorge, across the mountains and onto the plains. By evening, we reached the flatlands, where tumbleweeds blew past the very few service stations and boulder piles.

On one long stretch, several hours past sunset, our car, "Old Faithful," broke down. We found a mechanic working overtime. He offered a quick diagnosis and said he needed that night plus another half day to fix the car (especially since he would need to add shocks and other upgrades essential for a couple of young, gullible women). We trundled the children into a cheap motel down the road and sank into bed.

Not one to miss my constitutional morning run, I stepped outside at dawn to see where we had planted ourselves. The journey looked so different on foot than it had the night before, by car. With no town or traveler in sight for miles, I met nothing but colorless winter wheat flowing chin-high in both directions, as far as the eye could see. We had come from the rain belt, and I had never imagined such a landscape of neutral tones. I felt I had stepped out the door onto another planet.

Slowly, the first light curled over the lip of the horizon. The bland stalks bowed slightly with the

breeze to capture the first pool of sun-smoke smoldering up at that first early yawn of the universe. Suddenly, the tall grasses ignited into a blazing plane of illumination, glinting yellow in all directions. I ran and ran, tingling all over, immersed in this light-bath.

For me, this became a watershed moment. The realization came to me that even a colorless landscape gleams magnificent at dawn — that all creation manifests beauty if we just arise to witness it each day. I knew that no matter how far I traveled hereafter, the mystical world would surround me at dawn, manifest through the humbling wonders of the creation. I have now been to many countries, and that interpretation has held true. The beauty of the physical reality, inherent in nature's patterns, shadows, movement and stillness, mirrored a spiritual reality. I needed no more convincing.

I do not bother with the question, When did humankind discover its awareness of beauty, but rather, when did we *forget* that relationship of beauty and the essence of a meaningful existence? Or did we?

The eye, as the monocle for the sense of sight, predicts danger, interprets communication signals, searches for food, facilitates work and cements the contact necessary to build relationships. These properties exist in the eyes of many species. Nature has also endowed the *human* eye, however, with the gift of *interpreting esthetics.* For example, the delicate pattern on the wings of the nighthawk, valuable as camouflage in the world of prey and preyed upon, become patterns for replication on quilts, rugs and jewelry in the hands of a human artist. Humans bring an innate response to esthetics, universal and unique to their species. They seek to interpret it, to imbue it with meaning, and to share it or at least to relish it.

Like a sixth sense, the eye for beauty remains so ingrained that all who bother to look up will catch their breath at the brilliance of a veiled sunset, the artistry in a field of poppies, the majesty of a mountain range baring its white-capped teeth on an ice-blue winter's day. Does it work both ways? We see deer frozen on the

side of a forest trail, staring back at us and marvel at their grace. We wonder, Do they see beauty in us, or only we in them? I doubt the grizzly bear glimpses at and admires our polyester fleece as we stand behind the binoculars, too enthralled to move, stunned by its shimmering auburn coat as it scurries across the mountain against the pulse of our racing heart. Nor do we know that the considerable intelligence of the dolphin encompasses awe at the vastness of the ocean as we sit on the shore, mesmerized by its leaps as it slices through the patina of a gelatinous green sea under a canvas of clouds.

Despite the wonderment and harmony that beauty interposes between the cognitive mind and the inner solace people refer to as “emotional wellbeing,” “spiritual rejuvenation,” or “mind-body,” many systems in society stand poised and ready to interrupt the flow. When politics thrives on dissension, education persists in measuring only didactic aspects of development, climate change deniers pay any cost to distract from images of environmental impact, and economists leave the human hunger for beauty in its purest sense outside their conversations, all systems starve. A society so steeped in technological information overload can slip out of balance, drowning out discussions of the value of beauty, blaming imbalance on the systems it has constructed rather than identifying the value of the integration of beauty into our educational process as an essential step for society’s well-being.

One group of urban fifth-graders integrated esthetics into each learning unit. The teacher one day passed out postcards of a beautiful national park. She asked students to paint watercolors of the national park by copying what they saw on the postcard. In history class, they studied the conflict between their National Park Service and the indigenous

people the government had displaced to create the park. They role-played conflict resolution scenarios between the park rangers and tribal leaders. Finally, they learned to perform the dances of the displaced group.

The moment of truth came when the students rode by bus for an overnight visit to the park. They danced and presented the watercolors to representatives of the tribe and also to the Park Service, who had worked out their disputes over the course of a century. In an emotional but dignified ceremony, the students danced, offered their poetry and gave their paintings to honor both the park service and especially the Ahwahnee, Mono and Paiute people for preserving the beauty of the land.

The museum representative, in tears, invited these fifth-graders into the round house and called the local storyteller to come and honor the students with stories — a gift no other tourists received.

“People come to the park every day to take from us,” she said. “No one ever comes to give.”

As they drove out of the park through the northern tunnel and stood at the roadside vista, they turned back and saw the exact viewpoint from which the original photographer had created their postcards. The scene looked just like their paintings. Their faces froze in exultation. Their appreciation of beauty, history, and a new comprehension of the impact of acts of beauty all coalesced in that moment, as they beheld the backdrop of the granite cliffs and wildlife-rich meadow below.

When later tested by assessors on grade equivalency tests, half of those students jumped ahead two grade levels during that time

period, ostensibly due to the shift in consciousness and motivation from opportunities such as this one.

Religionists, fine artists and folk artists have always found parallels between positive actions and nature's representations. The lotus blossom symbolizes purity of body, speech and mind to Buddhists and spirituality and eternity to Hindus. The Akan people of Guinea carved the ram's horn on stone necklaces to convey humility, citing the proverb, "It is the heart and not the horns that lead a ram to bully." (1)

In some communities, nature's cycles represent the dawning of all human qualities, such as strength, patience, reverence, gratitude, humility, service, sacrifice, unity and love. For example, the Diné (Navajo), centered in the American Southwest, have preserved the philosophy of the Beauty Way, which guided their ancestors through economic challenges, disease, removal of property rights and other deprivations over the centuries. The Navajo see each of the four directions as serving a distinctive purpose. Each one has a metaphor in human behavior or suggests a season of life, marked by a rite of passage. At age ten, for example, a girl may walk ten miles to gather wool for her grandmother to weave the symbolic rugs that she will teach to her granddaughter, both as an art form, a way to illustrate ideals and a means of earning a livelihood for the family. Creativity thus becomes entrepreneurial but still draws on the purity of the tribe's devotion to beauty and motivation to show kindness to elders.

Children, youth, adults and elders experience each period as a season of sacred responsibilities to the family and community. Immersed in beauty, they look to the natural world for a continual sense of inspiration, strength, and renewal. In turn, that season, time of day, direction of the four winds, or artifact of nature offers markers for how to live the Beauty Way. Walking through Monument Valley once, I stood near a cave entrance and heard the pulse of the sky beat as if its heart could feel my own. As it grew louder, I saw a bird of prey fly to the cave from a full mile away.

To quote one Navajo prayer:

"…I walk with beauty before me. I walk with beauty behind me.
I walk with beauty below me. I walk with beauty above me.
I walk with beauty around me. My words will be beautiful..." (2)

Technology can stem the tide of economic strife, suffering, disease, hunger and engineering obstacles of every kind. However, the brain and indeed the soul long for balance between the aesthetic disciplines and the creative aspects of the engineering-prone world. The higher definition of beauty, described by many indigenous and ancient cultures and the world's religions, at their core, defines beauty as an action verb, a series of simple acts that "beautify" the immediate family or the human family.

Imagine a universal learning community with perpetual access to esthetic stimulation and lessons on *seeing the beauty in others.* With these essential priorities in an integrated educational system, how might this community fare, compared with a world community fully wired with the internet but without the added priorities? Yes, it is a rhetorical question.

Will human nature push each learner's resolve to find meaning in beauty, even if accessible learning institutions, corporate jobs and cultural values limit and downplay the learner's opportunities to do so? Can we take such a chance as we contribute to the prevailing culture?

As Marcel Proust wrote, "The real journey of discovery consists not in seeking new landscapes but in having new eyes." (3)

Exercise in Creativity

A teacher can heighten everyday awareness of beauty and turn that beauty into a gift for all occasions, helping students understand how to visualize details in any setting. Whether on a vast landscape or a concrete jungle, all they'll need is a small piece of paper and writing implement.

1. Lead the students on a walk through the school neighborhood.

2. Every so often, ask students to stop and make a square by raising the thumb and index finger of each hand. As they raise their eyes, they will see a picture frame that allows them to narrow their focus and sketch something of interest within that small square of skyscape, landscape or ground.

3. In one class, the teacher followed up this activity by having students discuss the metaphors in their drawing and comparing them to "acts of beauty." They read stories from a series about life in Botswana to identify which characters committed acts of beauty. Not surprisingly, harmonizing their inner and outer vistas breathed life into learning. This calming step proved far more motivational than lectures and drills in raising their test scores the following semester.

Why Hope?

Every corner of the globe offers evidence of the bell-shaped curve and the strength of one child to stand and lift the others to their feet, or even for the whole group to rise together and exceed our expectations that their peak experience will also raise the elevation of the mountain for the civilization they uplift. We have seen this occur on almost every continent.

A museum had asked Full-Circle Learning to collect artwork and responses from all the children around the world, asking what children were willing to do to protect the most precious aspects of their environment. One class in Kenya received our request, along with a new song called “Beauty Is What You Do.”

We sent the package off, hoping they could respond to the challenge before the museum exhibit opened. Sure enough, a large box soon arrived in the mail with a large piece of recycled cardboard, decorated with straw, sand, and rocks in the mosaic shape of a beautiful lion. The children’s concept of this beast of nature moved us, but the letter inspired us more. They wrote: “Thank you for your reminder that ‘beauty is what you do.’ We acted on this challenge by holding a meeting to teach all the adults with songs and dances this message. While they were there, we taught them how to make better use of the water by terracing the hillside, which we reconstructed for farming purposes. We planted it with new cassava trees. We then cleaned up the watering hole, which the donkeys had soiled. Next, we traveled by bus five hours to Nairobi to sing our songs for Wangari Mathai at an event for the outgoing UN Environment Programme Director. It was the most memorable day of our lives, as she followed us and spoke with us instead of with the 1200 adults attending. We are sorry we didn’t do more, but we only had two weeks.”

(Kenyan FCL children sang in installation with trees under life support)

We recognized the dedication of the teachers who supported this

effort. We saw many other children who rose up as leaders of in the eight countries included. In Afghanistan, many of the children had been denied the advantage of an education until recently. In one neighborhood, they tended animals on the hillside while the parents looked for work, calling themselves “cowboys.”

(Wikipedia. Herder boy in Afghanistan)

These youth had finally earned the right to attend school half a day when we made our visit.

We asked what they found precious about their environment and what they would do to protect it. In each class of that school for street children, hands busily scrawled pictures of the lovely cypress trees and flowers that sprouted before the war, now degraded by landmines and foreign bombs.

As they finished the assignment, the teacher asked who would like to show their picture. One small nine-year-old boy raised his hand and stood tall. Holding up his drawing of the hillside full of flowers, with his grazing animal and tent pitched near the top, he pointed to the plane he had drawn overhead and to the bomb falling toward his sheep. He had included a circle with a crosshatch to delete the bomb. He said:

“*See the flowers and the trees in springtime, with the bomb, about to drop on the animal? We have a beautiful environment in Afghanistan, but we cannot protect it until we have peace. We have known only war. Our fathers and mothers have known only war. <u>We</u> must be the first generation to create peace. It is up to us to protect the environment in this way.”*

All eyes held fast to his and nodded in solemn agreement with this truce.

(Shanti at a school celebration)

Later in the year, we met a group of children who had suffered from the tsunami that left so many homeless and fatherless on a

sandy beach in India. Shanti Selvakumar had opened a school in Chennai in honor of her son, who died in a traffic accident. She wanted to also reach out to the group of children languishing in canvas tents on a beach where the tsunami had struck.

The blue sky, calm sea, and nearby grassy cliffside belied the tragedy that still hung like a cloud over their lives, a year later.

Mothers and children sat in rat-infested hovels with hollow eyes and cheeks and empty tin jars scattered about, trying not to think about the fate of their fisherman fathers, all of whom had drowned. They would no longer eat fish for fear of turning cannibal, for they feared the larger fish had eaten their men.

Hoping to help the children transcend their memories, Shanti asked, “What do you find precious here now, and what will you do to protect it?”

Some of the mothers whispered to the children to beg for us for things and to draw those things. Others drew the friends they had saved from drowning, a memory that sustained them. One 10-year-old boy sat apart from the others, coloring an elaborate sketch of a cliffside village with colorful flowers, anointed with neat lines of

(Indian woman after tsunami. Brittanica.com. 2004.)

Tamil text. He smiled as he turned it in. Shanti looked at him with wonder as she translated the beautiful piece of art. Her face radiated as she slowly read the words of this young survivor: “*Someday, I will be the mayor. We will build tall houses high on the hill, where the tides cannot reach us. We will plant flowers and stow away trash, so the rats will not torment us. We will work together to create a new way of life. To do all this, we must learn. Education is the temple where we must worship. The teachers are our holy water*.”

Indeed, every place where hope has vanished, a new voice of hope emerges, reborn in the altruistic identity and ideals of a child.

(Cry School, Zambia, 2017)

Section VI. Case Studies

The following stories illustrate how each spoke of the Full-Circle Learning wheel has forwarded the momentum to transform lives, again and again. As teachers envision the end from the beginning, their learning units help learners first imagine the *why* of their applied skills and wisdom exchanges. Teachers and students participate in the human family and transform communities while matching purpose with potential.

The Character Education Spoke

The first spoke on the Full-Circle Learning wheel, character education, offers a thematic springboard for all the activities that follow. As the wheel turns, that theme infuses purpose into all the content areas. The following example reminds us that learners also make life-changing choices as they absorb the nuances of that theme.

For example, one young child refused to leave the school when a classmate's family forgot to pick her up. He sent home his own ride and stayed with her for several hours to make sure she was safe. Other children have exhibited honesty or settled family feuds, based on their deep understanding of the current habit-of-heart.

Students of all ages had practiced the habit of sacrifice. Two boys, in particular, deeply absorbed the mastery activities in this unit. On a field trip to conduct an environmental clean-up at a local reservoir, a classmate stepped out too far into the lake and fell into a drop-off. She quickly began to drown, flailing in the water.

One boy rushed toward her. The other said, “Wait! You don’t know how to swim!” The other one said, “But I know how to sacrifice.” The first replied, “Well then, so do I.”

Together, they rushed to the girl’s side and bobbed up and down in the water, keeping one another afloat for ten minutes, although she panicked and pushed them down again. At last a teacher saw them from a distance and knotted towels together. The other students made a human chain and threw the towel to them. They saved the girl at last.

The first boy, the oldest of six children of an immigrant field worker, knew his family expected he would choose the same path. Instead, he vowed to become a paramedic, to continue saving lives. He continued on this path years later, after high school graduation. When the class needed an exchange that required no translation for their wisdom exchange partner school in another country, the boy drew a picture book about how to save a life, called *Sacrificio*.

The Academic Spoke

The academic spoke of the wheel has also brought inspiring stories as students discovered the altruistic aspects of their inherent gifts. At one school, a large family with nine children included several foster children whose parents were in prison. The girl in the family stood tall and quiet. An African-American newspaper sent a reporter to chronicle the success of the school. The children had seen many guest presenters, including a famous documentary filmmaker, engineers, actors and others who liked to come and share their skills with the students. A year earlier, during a unit on compassion, a humble surgeon stopped by on his day off, to talk about orthopedics in relation to the habit-of-heart, Compassion. He shook his head as he left, saying, “I don’t think my presentation was very effective. All I did was tell them how I fix the broken bones of children and

what I had to study in school and how hard they will have to work to do so—and, of course, I brought my rubber skeleton."

On the day the journalist came, the following year, he said he would randomly pull out a student to interview. He selected the tall foster child, who had just turned nine years old. "What do you want to be when you grow up?" he asked.

"An orthopedic surgeon," she answered, without hesitation.

"What? Do you have parents in health care?" he asked.

"No. My parents are in prison."

"Well, how did you get this idea?"

"We get a lot of people showing us their skills and their ideas about how to practice the habits-of-heart around here, but one man was just like me. He loves to study science and math. I *never* knew anybody but me like that. When he told us how he feels about fixing the bones of young people, I knew that's what I was born to do."

The journalist scribbled his report, and we thought the story would end there, but it didn't. A few years later, the girl's foster mom called and said that a special high school had just opened for future orthopedic doctors. The girl had subscribed to a newspaper and learned about the school. She insisted the school write a letter to help her gain entrance. The girl had told no one else about her dream until that moment.

Four years later, teachers wrote another letter of recommendation. This time, the girl entered a pre-med program and then medical school. She hesitated thinking she might choose pediatrics, but since she couldn't bear hearing a baby cry, she stuck with her path as an orthopedic surgeon. Her brother, too old to attend the original program, resorted to life on the streets when he turned 18.

The Peacemaking Spoke

Tensions ran high in Liberia when the government faced economic challenges due to stolen funds, destabilizing the economy in 2019. Civic groups began to plan an armed protest against the government. Many of the Full-Circle Learning schools determined they must remind the people

of the two civil wars that had robbed the last generation of its innocence and left many children as orphans. They planned a rally in the part of town where the armed resistance movement originated. The students wrote speeches urging peaceful negotiations, explaining that their own teachers had taught them how to talk out problems, encouraging negotiation over violence and revenge. After years of integrating conflict resolution and habits-of-heart into their curriculum, they knew how to set an example for the adults.

Most of the administrators canceled their buses for fear of a massacre, but two buses brought students to the rally, and other students joined on foot, courageously carrying out their cause. Three days before the scheduled protest, the students spoke to 500 people gathered there. At the end of the day, the protesters met and talked about the students' speeches, realizing their plan would have harmed their own children. They called off the rally. By speaking calmly, with empathy and yet with conviction in their voices, the students helped avert civil unrest that day.

Integrating Art as Altruism

Each day, Full-Circle Learning students sit in a circle and acknowledge their membership in one human family. These Sudanese American children expanded the conversation to how they could help other members in that family, such as people without homes. Here, they studied statistics on the number of homeless people in their area.

One year, students in an economically challenged part of Los Angeles realized that many in society need to feel acknowledged as part of that human family. Many students knew a family member lost to gun violence. Some children lived only with mothers or grandmothers, but at least they had homes. They wanted to advocate for those without homes. They studied the photographs a famous photographer had taken of homeless people and drew their own portraits based on these photos. They marched downtown with the portraits, to give homeless people a human face.

Next, they practiced conflict resolution exercises between homeless people and a merchant wanting them not to sleep on the store's doorstep. They looked at statistics having to do with the causes of homelessness. They wrote essays requesting solutions such as more and better housing in the city. They compiled their work and wrote to the mayor, asking him and the city council to consider their ideas. While waiting, they wrote to their wisdom exchange partner school in India, where poverty left many people living on the streets. They sent a copy of the book and waited for a reply.

In India, however, the Full-Circle Learning school had another idea. After some time, they sent a copy of their own book, a creative work full of student poetry and mosaics made with seeds. The cover letter explained that in their eyes, poverty comes not from the lack of a roof but the lack of family. The Indian school had decided that the poorest people were the orphaned grandparents. Their children had made books to give to those in the community who had no one to help them. They had delivered their books, with food and gifts of service, to the homes where the elderly lived. They had sent a copy of such a book.

In the back pages of the book, Polaroid photos showed the raggedly dressed elders with children bowed prostrate before them. The caption read, “The children gave kisses in exchange for blessings, as the grandparents had no one to bless.” In the corner of one picture, a small child reached up to plant a kiss on the cheek of an “orphaned grandmother.”

After seeing the book, the foreign students fell silent for a moment as the teachers dabbed their own eyes. Then the hands shot up in the air. The children asked questions about how they might learn the language of these wisdom exchange partners and someday go to this place. Many had been raised by grandmothers. They suddenly became aware that true poverty meant lack of grandmothers more than lack of funds.

Another story occurred at the time of the great earthquake in Haiti, in 2010. Only one Full-Circle Learning colleagues there that could communicate. Her apartment had fallen, but she had found safety in a park, with her computer still running, and she had many children surrounding her who no longer had homes.

We quickly put out the call to all the Full-Circle Learning schools in the world, to see who would reach out and offer comfort to members of their human family. The Haitian children, scared and trembling on the ground,

feared going inside and experiencing more aftershocks, so many of the crammed inside the pup tent.

Within hours, one of the schools in China responded to the call. At a Greentown Kindergarten, children drew “blessings for Haiti” and sang songs of comfort. Although they could only send photos of the singers and the drawings of hands with special wishes, when these images reached the children in the park, their spirits rose, according to their temporary “mother” in the tent. The only comfort the children had that night was to know they had brothers and sisters who cared, as far away as Hangzhou, China.

Later, when Hanghzou responded to an earthquake in a city closer to home, the 4 year-olds practiced Sacrifice, giving up toys and even their precious silk worms for a swap meet. The two-year olds and parents purchased the items to raise money for a fallen school in the earthquake-affected town. The four-year-olds then wrote about the feelings of hard-earned empathy that come only through sacrifice. The Greentown school systems have continued this pattern of giving. The girl in this photo participated, years later, in an annual tradition of sacrificing warm winter clothing for those in need.

Global Service as Wisdom Exchange

One school’s wisdom exchange partner lived on the island of Java. She knew how to write, and so the South Los Angeles students exchanged projects with her and received reports from her. When she sent a woven mat to show how her community earned income, the African American students, mostly age 7-10, tried to set up a weaving project and soon realized how difficult it would be to mass produce these articles for a living. They shared with her many projects of their own, explaining their work in areas of conversation and peacemaking and scientific research.

Finally one day, their class received a letter from the girl, Halimah. Brokenheartedly, she explained that she and the other girls may not have a

chance to write much, as she would soon graduate from 6th grade and would have to leave school. She said that, through her joint projects with them, she had come to understand the value of education and now realized that she and her younger cousin would never be able to pursue their dreams.

The children in the wisdom exchange school did not understand. “Does she need more pencils?” they asked the teachers. “We can send ours.”

When the teachers explained that the tradition in her village forbade sending girls to school past primary school age, the children began to cry, so the teachers challenged them think of ways to use their own skills to show their love for Halimah. At last, instead of mailing her their pencils, they mailed letters to the agency that frequently sent social workers to her village. They pled with the social workers to help Halimah and her girl cousins.

Months passed, and at last the children received another letter from Halimah. This letter joyously explained that she had been skipped up to eighth grade. The social workers had traveled to the village to meet with her father, asking that she be allowed to stay in school. After their departure, her father had called together all the men in the village for a town hall meeting. They talked on and on and finally voted to overturn a centuries-old tradition of keeping girls out of school. Even her little cousin rejoiced, and now Halimah could embark on her dream of becoming not only the first female physician but the first doctor the village had ever known.

After hearing the news, the children cried and literally jumped up and down for joy. A party ensued for the rest of the day. When later asked by UNICEF to sell hats made in Kenya, to support global girls’ education, the children not only said yes but found creative ways to do so.

Some of the students independently set up their own girls’ education hat booth at a swap meet every Saturday, complete with hand-made charts and graphs and speeches they had written about the importance of educating girls. The interesting fact: Most of these champions of the cause were eight-year-old boys. They had thoroughly bonded with a girl far away in a land they would never visit. They had felt the impact of their own empathy on her life and on the lives she would someday save as a doctor

and also on future girl students. They had respectfully taught new ideas to the men and boys in the village.

These children realized that whatever skills they could offer—a math bar chart, a short speech, an encouraging word, a well-written letter—could potentially bring about a deep human impact somewhere else in the world. Their motivation to learn had already risen a great deal from local service projects challenging them to show kindness among the elderly, the scientists, the wheelchair makers, the farmers, the hospital patients, the builders, and the homeless people, but it now rose sharply when they began to see their impact on an even larger human family.

(Girls engage in cultural games, depicted in the *Jakarta Post*, November 2017.)

Facing the Future

Long-term results occur in local projects as well as global exchanges. These learners sang for rain to thank the botanists who helped them plant trees on a deforested mountain plateau near Mokhotlong, Lesotho.

(Mokhotlong students sang to pray for rain after planting trees on the plateau.)

The learners had learned the relationship between drought, hunger and deforestation as part of their unit on Farsightedness. If they could plant more trees, they could improve the soil, prepare it for farming, and help people increase their crop yields, to become more self-sufficient.

Over a decade, the trees grew and changed the landscape. In the meantime, follow-up projects had taught students in the area to apply their creative ideas to address the problems imposed by climate change and as well as to improve the social climate. Unit plans at some schools had reduced the stigma against children born with HIV, for example, and had helped children engineer inventions made of trash. Parents had started their own school, called Lerato. Some had improved nutrition with community gardens at the school and also by selling the food to local restaurants.

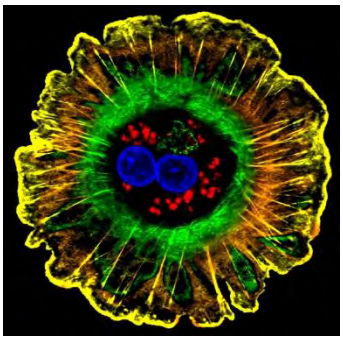
A girl from the Harvester School made a handbag out of plastic bags. One boy made fully wired lampshades from water bottles. The students' creativity offered potential economic opportunities while reducing pollution.

Service to the Human Family

At one point in the 1990s, a young boy's father died of leukemia. Distraught, the boy became withdrawn and quiet. He had previously shown promise in the sciences, but at age 7, he suddenly showed little interest in learning. The teachers designed a project that would benefit the community and bring him out of his depression.

Every year, the National Institutes of Health ask new research questions about cancer. The teachers challenged each student to think of a question that had not yet been asked, and to write a letter explaining the reasons why they felt it should become a current research topic. The assignment enabled students to write at the level of their own understanding and to stretch their understanding of cell biology. The boy who loved science poured his heart into writing that letter. Surely he could ensure that others would not lose their fathers, as he had, if scientists could discover more information about leukemia.

After sending the letters, the class prepared for a field trip to the local hospital. They would not be allowed to see the cancer patients but went specifically to celebrate the efforts of the doctors and nurses.



To prepare for the trip, they looked at pictures of healthy cells. They painted large pictures of the cells and framed them by decorating boxes and cutting out squares in the centers. Next, they learned a song the school wrote for them, called *Questions*. They wanted the oncologists to feel encouraged to ask questions the right questions to cure disease. When they presented their pictures and songs at the hospital, the nurses and doctors received them with tears in their eyes, but at last one person smiled: the little boy who found new purpose although his father had died.

Creating Peak Experiences

Students at Blessed Vale School, a suburb of Lusaka Zambia, learned from Antoinette Wright to develop their speaking and writing skills. Few children attended school in this most difficult part of the city.

During an Advocacy unit, they planned interviews in the marketplace. They asked people what they felt would solve the challenges with crime and poverty in the neighborhood. Each interviewee received an advocacy bracelet made by the students in exchange for talking about these difficult subjects. The citizens interviewed pointed to a lack of education as the factor most responsible for the problems.

As they finished the interviews and turned back toward the school, a parade of children followed them, shouting, “We want change! We want change!”

These children followed the students all the way back to school, where they were enrolled tuition-free. Founder Beauty Nzila accepted every new student. The village school’s population suddenly jumped from 300 600 students. The new students happily learned. Their motivation made up for the lack of desks and materials.

Later when volunteer Jade Romain came to serve, she reported young children who had not eaten all weekend, barely able to walk to school on Monday, who came with joy on their faces. They thrilled just to meet as members of a learning family, anticipating the peak experience of learning together.

Parents became involved in the school. Some students received scholarships for medical school or engineering school, motivated by the realization that their choices could change the lives and destinies of others.

Hunger Relief for Humanity

Cameroon had always touted its sugarcane, onions, vegetables, palm oil and potatoes. However, in recent years, a changing climate increased the rampant growth of harmful pests, decreasing the bounties of Cameroonian farms.

As a result of excessive insects, farmers lost a huge portion of their annual harvests. Children dropped out of school, too weak to sustain themselves during the rainy season. Starvation and malnutrition loomed.

Full-Circle Learning had made an impact in the high school science classrooms at Good Shepherd School, where teachers and students applied the model to bring about needed change. They practiced the habit-

of-heart “Preparedness,” researching the compounds needed to reduce harmful pests in the fields. Their scientific research led them to bacillus thuringiensis, an organic pesticide.

Funds from Full-Circle Learning helped the students carry their organic pesticides to the fields throughout the region. Five months later, the farmers experienced a bumper crop that exceeded those of any recent year.

Meanwhile, the students sought sustainable solutions, such as government support for organic pesticides, and economical ways to maintain plant health, such as wood ash and water.

Health Relief for Humanity

Students in Southern California made comfort pillow cases and conducted a handwashing campaign during a local influenza outbreak. They sent a wisdom exchange to Liberians schools to shrare ideas about how to deal with infectious disease.

Three months later when Ebola broke out in West Africa, the Liberian students not only made pillow cases for neighboring countries but immediately conducted a handwashing campaign that prevented any new cases in 31 schools as FCL Continental Director Davidson Efetobore organized the teachers in a humanitarian relief and prevention effort. Because half of the nation’s health care workers died, four years later students became first aid practitioners and health educators, trained by visiting physician Tsan Lee in 2018 (above, right).

Psychological Relief for Humanity

Liberian learners met in mobile schools when their nation shut down all schools during the Ebola outbreak. Their teachers applied creative methods to teach the habit of steadfastness. For example, they integrated literacy with their habit-of-heart to help students learn to spell the ingredients before making a delicious pepper soup to comfort neighbors during the virus's long siege on the community.

Energy Relief for Humanity

A fourth-grade teacher of the "Humanitarians" class at a school in Mapape, Zambia taught a learning unit on the habit of *Seeking* as part of the curriculum linking academic content to character and service goals, knowing that every learning unit must help students address specific community needs. The students ultimately went to the newly elected leader of the town of Mapepe to seek an answer to an important humanitarian question: How could they help their town experience the benefits of electricity, as this advance had benefited the wellbeing of the populations in nearby towns?

Touched by their concern, the leader began pushing ahead with the process of electrifying the town. Just in case the mayor's new zeal might not produce results, the class began their next unit on alternative energy sources. The students continued to seek ways to literally and figuratively bring light to their community in case the leader's efforts might not succeed.

Class-to-Community Initiatives

Students pictured here attend the Mildred School, in Lusaka, Zambia, where climate change has increased the intensity of seasonal rainfall, creating severe potholes in the dirt roads leading to this suburb. Drivers coming into the area at night overturned, resulting in many traffic deaths. As part of a Unity unit, the learners went into the courtyard and taught younger students math using rocks. As their equations resulted in rock piles, they began to sing about unity. Neighbors came out of their homes to listen and to join in in. The students used the rocks to fill potholes, and the neighbors followed suit. At the end of the day, their unified efforts had leveled all the streets leading up to the tarred road. They collected data on the number of traffic accidents that followed through that spring. Traffic fatalities ceased.

Agricultural Relief for Humanity

Change-makers and humanitarians in the Gambia have carried out many transformative actions in the community. Their keyhole gardens have served as a wisdom exchange for America and other countries. Alagai NDow taught MyFarm students to grow small, enriched gardens, resistant to drought, to feed a neighborhood in a compact area.

At another school, students explored a way to combine two valuable skills. In their Science class, they learned about electricity and innovation. They had already discovered the value of creativity and basket-making.

Combining these two concepts, they decided to build baskets as lampshades for their library, classroom, and other offices in the school. They knew of no one who had tried this before.

They picked local materials from the forest, while gathering the remaining materials, such as the bulbs and sockets, from the school. They worked to assemble their materials for presentation to the student body, parents and fellow students.

Resolving Clan Feuds

In the Republic of Chad, a teacher conducted an in-depth study of the conflict resolution process. The teacher felt grateful when a student miraculously helped his father forgive a nephew and his wife of a dispute over a plot of land in a long-running family feud. The young boy became the peace ambassador of the class.

The impact of peacemaking also made it mark in Nigeria. While some schools focused on establishing programs to bring boreholes to their communities, or to negotiate peacefully to clear a path for a new flood plain, this school brought rival tribes together for a large festival, helping them resolve their differences. A chief declared relief that the school had been able to unite them in a way no other action had done.

Honoring Elders

Each school program mentioned in these stories helped a child, a school or a community turn a corner. These few represent hundreds more stories, too numerous to tell. Examples that appear in Full-Circle Learning curricula have been replicated among multiple cultures, culled for their universal principles and their potentially flexible options for implementation.

One constant appears in many schools: the tendency to include projects that unite the generations and that honor the elderly for their wisdom while also rendering them service based on the habit-of-heart. (Examples here show students from Tarzana Elementary in California, a Full-Circle Learning *Girl United* program in Liberia, and the Cry School, a rural village school near Lusaka Zambia.)

Several schools host regular activities with adopted—or sometimes with biologically related--grandparents. The first time the value of such a project occurred, teachers had gathered the students to act on their habit-of-heart at an American nursing home. The children had incorporated their academic work into a meaningful exchange with the elders there. Their next project would have them creating a history book about the towns each senior had come from, based on their cordial conversations.

Each child had an adopted grandparent. As the students departed and boarded a bus to return to school, one eight-year-old said to another, “That lady told me my visit with her was the best thing that had happened to her in a year! Can you believe that?” They looked at one another in amazement. That moment of epiphany, that peak experience, captured in their eyes, linked the “Share It” and “Sustain It” steps that represent the capstone of the Full-Circle Learning unit. In the years that followed, almost

every country with a Full-Circle Learning school included a unit, at the very least, or even an ongoing program, to serve the elderly, with a reflection step included afterward. For example:

- When students mastered the habit-of-heart Compassion at Zambia's Gifteria School, they appealed to their school leaders to allow them one afternoon each week to act on what they had learned. Some would systematically teach and feed the younger toddlers in the village. Others would go to the elders in the community to fetch water, serve food, do simple chores and help clean their surroundings. The school leaders relented and declared every Wednesday as Compassionate Day. They described it as their way of sustaining the habit-of-heart "as long they belong to the human family."

- A few years earlier, at another school in Zambia, schools gathered to hold a parade to abolish taboos based on witchcraft. They advocated for the wisdom of the elderly, encouraging visits and charity, ending with a dinner and clothing giveaway for those senior citizens who had been neglected for so long.
- In a Liberian school, Joseph Town High School, children of varying ages improved their literacy by teaching the village elders to read.

(Christopher Swen, right, led the Joseph Town High project.)

- Meanwhile, in China, Double Ninth Day honors grandparents each year with all-day ceremonies at many schools. One building contractor decided to go much farther than creating an annual celebration. Realizing that the growth of the city of Hangzhou separated families with increasingly longer commute times, he wanted to create a more holistic sense of family.

The builder designed the Greentown Lanteng Kindergarten with the school as the nucleus, placing an environmental garden on the rooftop. Next door, he added an assisted living center to house 1,000 senior citizens. On the edge of the urban village, he added a factory, to provide jobs and reduce the distance between parents, children and the elderly.

At the Greentown Lanteng Kindergarten, the children grow their loquats and fava beans on the roof, then walk next door to serve them to their adopted grandparents. On designated evenings after work, the men from the factory meet their children at the cooking stations there to prepare meals for the adopted grandparents.

(Some fathers wept when they saw videos of the children talking about the fulfillment of having their once-distant dads so closely connected to their lives of service.)

On some of the service-learning visits, the children play string games with elders whose conditions have created memory loss. These interactions strengthen the skills of the early learners as well as the emotional and cognitive health of the residents. This school, Lanteng Kindergarten, captures the spirit of a Full-Circle Learning community.

Climate Change and Caring

(Jessica, Stella and Savannah at Camp 2019)

Climate change has affected the health, economics and wellbeing of virtually every Full-Circle Learning community. At the Climate Change Agents Camp, lesson plan unit plans train students to integrate their habits-of-heart with the morally based obligations of humanity, introduced by a thematic issue such as drought, wildfire or food insecurity, while emphasizing the need for research, diplomacy, practical skills, and new strategies in the fields of energy, health, land management, agriculture, engineering, and almost every other walk of life. Adding the arts and the need for advocacy, the annual camp programs tackles multiple

aspects of prevention, adaptation and collaboration at once under the banner of a particular character-education theme. Facing the challenges of the age means more than accepting current science. It means imagining how you will resolve conflicts when even the experts disagree on the solutions.

In this photo, the Climate Change Agents of Nevada County California, aged 10-16, used clinometers and trigonometry to count the carbon in the trees in their forest. They discussed thinning practices and resolved hypothetical conflicts between forest managers who prioritize the value of saving every tree for its contributions to the carbon sink, versus those who prefer thinning and controlled burns to prevent more intense wildfires.

Each day the students learned about a new in-depth topic from experts and performed a subsequent act of service, all linked by the theme of love of humanity and living things. As a follow-up to carbon counting, for example, they explored forestry techniques employed by innovators in diverse ecosystems around the world. They recommended thinning options for their own local forest, and they taught the public to look at their fire-prone ecosystem from a broader perspective. They sent their research to global wisdom exchange partners and presented to the public at the farmer's market. This tradition occurs annually, even though the themes change each year.

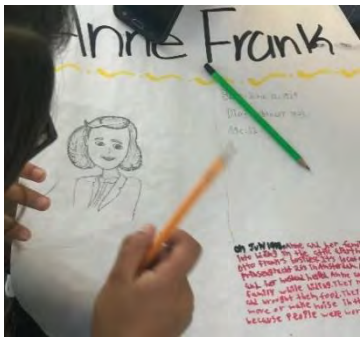
Throughout the weeklong Climate Change Agents camp, the change agents of 2019 offered loving and collaborative responses to fire victims, service, incorporating the arts, psychology, and science-based research, as well as in-camp relationship-building activities.

Forgiveness and Road Rage

Some habits-of-heart present teachers with a chance to explore creative options for service. In this case, road rage once caused many accidents on the highway near this Mexican-American summer school in Piru, California. Teachers Sugey and Stephanie Ochoa helped students teach car dealers to share conflict resolution skills with drivers and to give away "forgiveness" key chains to new car buyers.

After five years, this car dealer had been hoping for the students' return, to get more key chains! Indeed, a check of the traffic records reported no new incidents on the highway that once showed many angry encounters and fateful accidents among speeders, so the students returned with more "forgiveness keychains" just as he ran out.

Back in class, while the Ambassadors class researched historical figures and the impact of their forgiveness on history, the younger classes studied the metaphor of trash and its impact on the body if left inside. They also tasted vinegar and its bitter taste compared with clear water and the freedom of forgiveness.



From Tragic Figure to Local Hero

A girl in N'Djamena, Chad told the Full-Circle Learning program director that the tools she had gained gave her a reason to live.

Aïssatu had a stroke as a young girl, leaving her with a learning disability, unusable hand and speech impediment that made her feel unloved by teachers and students. She felt isolated, yet she longed for education as a tool to help her make a meaningful impact on society. She suffered in silence, never given a chance to contribute. Berated by classmates, she contemplated suicide.

After her teacher received the FCL training, she immediately trained the students to completely change their approach. Gradually, both teachers and students at the school reached out to the girl as a member of the human family. They befriended and never left her, through graduation. She decided, as a result, to become a teacher of disabled children. As a teacher in Chad, she uses the Full-Circle Learning educational model to the fullest. She also houses 25 disabled adults in her home.

Teacher Training - Key to Implementation

Full-Circle Learning arrived in China through a lecture tour and first Mandarin translation of Habits of Humanitarians, followed by presentations at global conferences across China and intensive work in Zhejiang Province. The dean of Zhejiang Normal University, Dr. Qin Jinliang and the dean of moral education, Dr. Jin-Mei Gan, engaged in a long-term Full-Circle Learning research project at the teachers' college, at its pilot school for 1,000 children, and at schools throughout the province, including the

Greentown education system. (Below, the teacher in the center shares her new book with Dr. Gan, right.) In 2019, Dr. Gan's team wrote the following:

"*The key to the implementation of character education and FCL lies in the formation of teachers' awareness of character education. This sense of character education is to sculpt and cultivate the ultimate goal of all education, and consciously link all educational practices with the cultivation of character.*

"This kind of consciousness can be truly cultivated only if teachers profoundly understand the crucial importance of character education for the happiness of the child's life, and deeply grasp the help children may need in their character learning and growth. …

"… Through years of practice, we found that the practice of the FCL model provides a good platform for teachers to … feel the positive impact of character learning on children… it also allows teachers to experience more educational significance and value in this practice, because they realize that they are not just a trivial kindergarten teacher, but a person who can positively influence and change the world, and they are participating in the construction of the human family.

"Through years of practical exploration, we have gradually formed the FCL model of teacher training, curriculum construction and curriculum implementation methods and resources suitable for Chinese kindergartens. Two books exploring the FCL model — The FCL case book and Kindergarten-Based Exploration of FCL — have been published."

Zhejiang Normal University, China

FCL Project Team

Getting Real in the Classroom

Dr. Vicki Lee welcomed the Full-Circle Learning model to Tarzana Elementary School in 2002. It has become a laboratory for studying community impact. Christopher Andrews wrote these comments after his first year as a Full-Circle Learning teacher there, in 2019.

"*Everything I have taught from the beginning of the year has been connected to some sort of [current events] phenomenon, [such as our Awareness unit] raising awareness about homelessness/refugees, then seeing 5,000 people leave Honduras. Then the Leadership habit-of-heart fell at the same time as our student body elections at school. Our Teamwork unit happened at the same time the wildfires occurred and [prepared the students to discuss] the Teacher's Strike! It doesn't get any more real. It was in these moments that we were able to make connections with our lesson plans."*

Christopher Andrews
Habits-of-Heart Club Teacher, Los Angeles School District

“Propelling Humanity into a World of Action”

Fourth graders at Liberia’s Faith Academy studied the habit-of-heart *Appreciation*. Their social studies unit helped learners realize the abundance of natural resources above and below the earth. Puzzled, they began to ask, With so much here to share, why are so many citizens still malnourished? Why do so many live in abject poverty, with no roof over their heads, in slum communities?

The teacher’s approach to the unit helped them reason that if all things exist in abundance, so must justice. While their parents had told them, “There is no justice for the poor,” their upcoming field trip — one of ten over the past year—would help them investigate this truth for themselves. Consequently, at 8:30 a.m., the class members showed up at the courthouse to witness a criminal rape case. The judge explained that neither the 12-year-old victim nor the suspect could afford attorneys, so the government would provide two lawyers apiece (four in total) to advocate for their rights. The jury also gathered to ensure that poverty was no barrier to justice. The children watched the day’s full proceedings.

Uniting the community and the learners had a profound impact on those present as they began to perceive justice as a resource to truly appreciate. The teacher said that the Full-Circle Learning lessons and projects over just one year had helped the students “fundamentally change the way they look at the world and the way they perceive their own country.” He called the educational model “a blueprint to help propel humanity into its next evolution of world action.”

Section VII. Moving Ahead

Your Own Path of Purpose

Full-Circle Learning, a global nonprofit organization, has touched the lives of learners and learning leaders across 35 nations, currently reaching 650,000 per year, at this writing.

The growth of these programs has escalated especially in regions where people see a direct correlation between transformational education and the challenges of living with climate change, hunger, poverty, inequity, corruption, and public health crises. Whole communities recognize the need to preserve and incubate the best recipes for evolutionary starter-dough we can possibly replicate, and with them, qualities such as humility, farsightedness, respect, integrity, empathy, self-mastery – 60 or more finely honed and nuanced habits-of-heart that affect the way we approach our inner life, our work, our relationships, our community life, our expectations and obligations, and our connectivity.

If 11 billion people will soon inhabit the planet, it will matter a great deal what kind of human family we have fostered. Can we step up to the challenge of peace and equanimity not only currently but in the 22nd century, now that we admit the vast capacity for goodness yearning to be fed among our family members around the globe?

Of the many tools that lay before us, education offers a chance to integrate many processes of human development during a school day, a month, a career, a life. If a child can conceive and believe, the child so often can achieve during these years of sponge-like enthusiasm and peak experiences flavored with whatever natural altruism we can cultivate in the learner. Each one, after all, deserves the basic right to a purposeful life, full of opportunities to magnify their potential to serve humanity along the way. The Full-Circle Learning model evolved for that purpose.

Meeting with other teachers to practice strategies, to discuss concepts and to plan curriculum design together often expands the ideas and nurtures the processes that enhance student growth and that broaden community impact. Full-Circle Learning educators receive access to free professional development workshops, reproducible tools, and templates in conjunction with the courses.

To inquire about opportunities for training, visit www.fullcirclealearning.org.

Consider your own path of purpose as you assess your pedagogy—and when learners wonder *what* and *where* and *how*, remember to reward their most vital instincts about *why* we learn.

Twenty Marks of a Full-Circle Learning School

1. Learners see giving as the purpose of learning.
2. Learners feel motivated by their empathic membership in one human family.
3. These commitments inspire peak experiences and creative, compassionate action toward members of an ever-widening circle of humans and living things.
4. Curriculum design and assessment encourage process-based learning, integrating all academic content areas and art forms as learners strive to uplift, advocate, remedy, build, advance solutions and otherwise contribute to the well-being of others.
5. Service to humanity finds parallels in the world community, through global wisdom exchange linked to local transformation projects.
6. Students process their character growth, receiving opportunities to appreciate differences, to bond with positive role models and to problem solve through hardship (challenging scenarios).
7. One specific character trait brings thematic continuity to all the subjects within a learning unit.
8. Each new learning unit contributes to an overall year-long identity, specific to that grade level. (For example, four successive traits may occur over the year for the Humanitarians class.)
9. Teachers customize learning units for regional education standards and for the community needs they target through projects. (For example, they meet literacy, numeracy, science, math, moral and creative goals with projects that address health, agriculture, economics, environment and other social challenges.)
10. A student absorbs 60 or more habits-of-heart over a school career, one at a time.

11. Each habit-of-heart becomes the theme for an integrative unit plan with service outcomes, based on the teacher's integration of the universal13-S steps (incorporating researched, scaffolded steps).
12. In their service-learning actions, learners frequently define teaching as service.
13. Deliberate classroom management strategies and teaching methods: 1) nurture altruistic identities, 2) promote self-mastery and 3) engender a collaborative peer culture among students and across classrooms.
14. Within each learning unit, conflict resolution applications help learners understand the need for inner growth and outward collaboration in personal, local, and world-stage dilemmas.
15. Students experience daily deliberate chances to layer their wisdom and to see the good in others.
16. Students receive opportunities to reinforce habits-of-heart at home, to teach and learn from family members, and to honor the habits-of-heart in family members.
17. Broad opportunities, over time, present a chance to engage with adult role models through community transformation and service-learning field trips, helping learners develop multiple strengths, entrepreneurial skills and options for civic-minded career paths.
18. Educators bond, train and plan based on a shared local vision, foreseeing the end results of their planning from the start.
19. Schools recognize the nobility of each individual and the equality of women, men and people of all cultural, ethnic and national backgrounds and belief systems.
20. Teachers express their own nobility and sense of purpose as they foster a generation of change agents and humanitarians

References

Section I. Sources

1. FCL annual reports, 1999 – 2019.
2. Witten, E. *Physics Today,* Sept. 2006.

Section II. Sources

1. Hooper, J. D. Teresi, D. The Three Pound Universe. New York: MacMillan/Putnam,1986. P. 27
2. Zimmer, C. *National Geographic*, Feb. 2014, Washington, D.C. and National Public Radio. 11/19/19; 4:00 hour.
3. Klass, P. "Understanding How Children Develop Empathy," citing Nancy Eisenberg in *New York Times*, Health Section, D5, Tues. Dec. 11, 2012; A. Tucker, *Smithsonian*, January 2013, p. 35-41, 76-77.
4. Sullivan, M. "Your Brain Might be hard-wired for Altruism." *Health and Behavior. UCLA News*, March 18, 2016. Los Angeles, California.
5. Grant, A. *How to Raise a Moral Child*," New York: *New York Times*, Sunday, April 13, 2014, p. 6.; White papers, Process Theory conference, Beijing, China 2000.
6. Bryan, C.J., Masters, A.L. "*Little helpers: Nouns motivate helping behavior more than verbs*." San Jose: Stanford University, 2010.
7. Costa, A. The School as a Home for the Mind. ASCD. Washington, D.C. 2007.
8. Sapolsky, R. Biology and Human Behavior: The Neurological Origins of Individuality. Virginia: The Teaching Company, Chantilly, 2005. P. 61
9. Ibid. P. 63
10. Sullivan, M. "Your Brain Might be hard-wired for Altruism. Health and Behavior." *UCLA News*, March 18, 2016. Los Angeles, California.
11. Ibid. Vol. 2, p. 30.
12. Ibid., Vol 2, p. 4; 59
13. Psychology Notes HQ, July 25, 2019 - *Online Resources for Psychology Students*
14. Ibid.
15. Ibid, R. Sapolsky. Biology and Human Behavior: The Neurological Origins of Individuality. The Teaching Company, Chantilly, Virginia. 2005. p. 54-53.
16. L. Child. The Hero. The Times Literary Supplement. London, 2019.
17. E. Young, "Fetuses Prefer Face-Like Images Even in the Womb." *Atlantic-Science*. June 8, 2017. Online source. Boston, MA

Section III. Sources

1. N. Kristoff. "This Has Been the Best Year Ever." *New York Times*. New York. 12/29/19.
2. Badger, E., Bui, Q. "Upshot: America from Above." *New York Times Interactive*, 12/27/19. New York
3. Rosser, M*. Our world in Data*. https://slides.ourworldindata.org/war-and-violence. 2019
4. Wikipedia.org/wiki/Homo_sapiens.
5. Ibid.

6. Kwame, G. "African Ethics", The Stanford Encyclopedia of Philosophy (Fall 2011 Edition), Edward N. Zalta (ed.), URL = <https://plato.stanford.edu/archives/fall2011/entries/african-ethics/>.
7. Ibid.
8. Moeda, N.Y. *Exploring Southeast Asian Cultural Values Through Short Stories. The People of Asia,* Oct. 24, 2018. https://thepeopleofasia.com/articles/topic-mustread/exploring-southeast-asian-cultural-values-through-short-stories/
9. Tribe. *Native-americans.com/white-buffalo-calf-woman-prophecy*. Nov. 7, 2001.
10. A. Huxley. Perennial Philosophy. Harper Collins. New York. 2009. Page 8.
11. Analects of Confuscius, Translated by Charles Miller. Xue er 1:2-1.16. www.acmuller.net/con-dao/analects.html#div-2
12. Ibid. Wei zheng 2:1
13. Kohn, L.. Cosmos and Community: The Ethical Dimension of Daoism. 2005. Three Pines Press.
14. Huxley, A. Perennial Philosophy. Harper Collins. New York. 2009. Page 7-8.
15. Shields, C."Aristotle", The Stanford Encyclopedia of Philosophy (Winter 2016 Edition), Edward N. Zalta (ed.), URL = <https://plato.stanford.edu/archives/win2016/entries/aristotle/>.
16. https://www.quotemaster.org/author/Hafez
17. John 15:17. King James Bible.
18. Baha'u'llah. Promulgation of Universal Peace, Baha'i Publishing Trust. Wilmette IL, 1982. p. 300.
19. Baha'u'llah. Gleanings from the Writings of Baha'u'llah. Baha'i Publishing Trust. Wilmette IL. 1990. P. 346.
20. The Basotho. https://www.liportal.de/fileadmin/user_upload/oeffentlich/Lesotho/40_gesellschaft/basotho.pdf; South Africa History online; towards a people's history.
https://www.sahistory.org.za/article/songhai-african-empire-15-16th-century
21. Education and Humanism - Courses.lumenlearning.com - https://courses.lumenlearning.com/suny-hccc-worldhistory/chapter/education-and-humanism/
22. Duignan, D.. Enlightenment. Encyclopedia Britannica, December 31, 2019. https://www.britannica.com/event/Enlightenment-European-history
23. Full-Circle Learning internal papers, 2016.
24. Gardner, H. Multiple Intelligences. New York: Perseus, 1993, p. 15.
25. www.newfouncations.com/Gallery/Whitehead, 1/2/2020.
26. https://www.nobelprize.org/prizes/about/the-norwegian-nobel-committee, 1/2/20.
27. Science blogs; Nikola Tesla, "My Inventions: the autobiography of Nikola Tesla", Hart Bros., 1982. (Originally appeared in the Electrical experimenter magazine in 1919.)
28. Campbell, R. Engineering to Care: Exploring Engineering in Humanitarian and Social Justice Contexts through a Lens of Care Ethics. University of Washington. 2016.

Section IV. Sources

1. Blyther, A. WRAT 3, 4 and Gray Oral Reading
2. Internal documents - Likert studies at two US locations among students with foreign-born parents of students ages 3 – 14, 2007-2008
3. Internal documents at Mexican-American school; student survey of students 11-14, 2009
4. S. Pinker,S. How the Mind Works. Norton. New York, London. 2009., p. 564.

Section V. Sources

1. C. Jung, Man and His Symbols, London, Dell. page 166-167.
2. Stein, R., describing research of Lancaster University's Vincent Reid National Public Radio. Washington, D.C. June 18, 2017.
3. Gardner, H. Multiple Intelligences. New York: Perseus, 1993, p. 15.
4. Feldman Barrett, L. *How Emotions are Made. The Secret Life of the Brain*. New York: Houghton: 2018.
5. Stein, R. describing research of Lancaster University's Vincent Reid National Public Radio. Washington, D.C. June 18, 2017.

Section VI. Sources

1. www.the symbols.net; Encyclopedia Britannica
2. Anasazi Museum, Chaco Canyon, New Mexico.
3. Proust. M. "The Captive," Remembrance of Things Past. 1927.

Section VII. Case Studies

FCL internal documents, community impact studies and annual reports, 1992 – 2019

Section VII. Moving Ahead

Website: www.fullcirclelearning.org

Bibliography

Berle, Adolf Augustus. The Home as a School. Moffat: New York. 1912; Palala, 2016.

Huxley, Aldous. The Perennial Philosophy. New York: Harper Perennial,1945; 2009.

Confucius (Translated by Miller, Charles), Analects of Confuscius. New York: Open Road, 1933.

Xue er 1:2-1.16; Wei zheng 2:1

Sproul, Barbara. Primal Myths: Creation Myths Around the World. San Francisco: Harper Collins, 1991.

"15 Common Causes of Suicide: Why Do People Kill Themselves." *Mental Health Daily,* 2014/07/23.htts://mentalhealthdaily.com, 2018/10/30.

Jung, C.G.. Man and his Symbols. New York: Dell, 1968. (pages 4 – 9)

Wilbur, K. Quantum Questions. Boston: Shambhala, 1985.

Diamond, J. Guns, Germs and Steel. New York: Norton, 1997.

Chief Yellow Lark, Translation by Episcopal Church. "Awakening Global Consciousness." Pearls of Wisdom. http://www.sapphyr.net/natam/quotes-nativeamerican.htm, 2018/10/31.

Eargle, Dolan H. Jr., The Earth Is Our Mother. San Francisco: Trees Company Press, 1993.

Eisler, Riane, The Chalice and the Blade. San Francisco: HarperOne, 1988. Tomorrow's Children. Boulder: Westview Press, 2000.

Wheatley, M. Leadership and the New Science.

https://www.nobelprize.org/news-and-insights/

Tesla, N. My Inventions: The Autobiography of Nikola Tesla, Vol. 3." Hart Brothers, 1982.

Kohn, L. Community and the Cosmos. National Academies Press, 2000??

Kolb D. Experiential Learning: Experience as the Source of Learning and Development. Englewood Cliffs, New Jersey: Prentice Hall, 1983.

Kolb D. (1999). The Kolb Learning Style Inventory, Version 3. Boston: Hay Group, 1999.

Anna V, "What is the relationship between quantum physics and chaos theory?" 2015-18-09 http: //physics.stackexchange.com/q/199405, 2018/10/30

Watson, G. "Education for World Citizenship: A System of Systems Research Design." 10/10/18.

Gallup Poll, Washington, D.C., 2009; 2013.

Full-Circle Learning Community Impact Study, internal documents, Grass Valley, California, 2018.

Eliot, E. What's Going on in There: How the Brain and Mind Develop in the First Five Years of Life; Bantam 1999, New York, p. 383.
Klass, P. "Understanding How Children Develop Empathy," citing Nancy Eisenberg in *New York Times*, Health Section, D5, Tues. Dec. 11, 2012; A. Tucker, Smithsonian, January 2013, p. 35-41, 76-77.
A. Blyther, A. Children's Enrichment Program longitudinal studies. CEP Annual Reports, 1999-2004, Los Angeles, California.
Zomorodi, M. June 2017 Ted Talk, recorded on National Public Radio October 10, 2018
Stein, R. "Fetuses respond to face-like patterns*". Health News* from NPR, Washington, D.C., June 18 2017.
Wolleben, P. The Hidden Life of Trees. David Suzuki Institute, Vancouver, 2016. Chapter 9.
Bryan, C.J., Masters, A.L. *Little helpers: Nouns motivate helping behavior more than verbs*. Stanford University, 2010; Grant, A.. *How to Raise a Moral Child*, New York Times, p. 6, Sunday, April 13, 2014.
N. Postman, N. The Disappearance of Childhood. Delacorte, New York. 1982
Hooper, J., Dick Teresi, D., The Three-Pound Universe. Putnam, New York, 1986. P. 27.
Macguire, E. Gadian, D. Johnsrude, I. Good, C. Ashburner, J. Frackowiak, S. & Frith, C. "Navigation-related structural change in the hippocampi of taxi drivers." *Proceedings of the National Academy of Sciences*, USA, 97 (8), 4398-4403. (2000).
Achor, S., The Happiness Advantage, New York: Crown, 2010 pp. 28-29.
Sam Oliner & Pearl Oliner, The Altruistic Personality, Greenwich Connecticut: Touchstone, 1992; Embracing the Other, University Press, New York, 1995, pp. 375-376, 386;
Toward a Caring Society, Praeger, Westport, Connecticut, 1995; p. 202.
Diamond, J., The World Until Yesterday, New York; Viking; 2012, 196-206; Guns, Germs and Steel. New York: Norton, 1997.
Goldstein, Jackie. Voices of Hope for Mental Illness. Goldstein, 2015.
Mezirow, Jack. Transformative Learning. San Francisco: Jossey-Bass, 2015.
Costa, Art. The School is a Home for the Mind. Thousand Oaks, Corwin, 2007.
Ryan C. Campbell, Engineering to Care: Exploring Engineering in Humanitarian and Social Justice Contexts through a Lens of Care Ethics. Dissertation: University of Washington, 2016.
Pinker, Steven. The Better Angels of Our Nature. New York: Penguin, 2011.
Goldstein, Jackie. Voices of Hope for Mental Illness. Goldstein, 2015.
Moore, Kathleen Dean. Great Tide Rising. Berkeley: Counterpoint, 2016.

End Notes for Section IV.

Full-Circle Learning Community Impact Study

Details of the Study: Interviews with learners, learning leaders and community members revealed the characteristics of the schools that had most shaped the lives of the approximately 27,000 regional learners whose experience was reflected in the study. Here were some interesting findings:

a. The interviewees mentioned habits-of-heart (moral development as unit themes) such as kindness, love, harmony building, honesty and service to others. They cited these as powerful motivational factors in changing the nature of their schools and the lives of their learners.

b. The practicing educators, who had been involved for one year up to 16 years, told or showed how those moral habits related to academic learning. Almost half of them specifically mentioned the integration of the arts. Almost half also specifically mentioned the transformative impact of integrative conflict resolution practices.

c. Leaders in those regions where Full-Circle Learning is expanding the fastest emphasized the relationship between the learners' acts of service to the community and actual shifts in thinking or impacts on broader community life. Service to humanity was an essential element of every integrated moral and academic learning unit.

d. The sense of purpose felt by the students depended not only on the teachers' initial comprehension of Full-Circle Learning curriculum design and classroom management practices. It also depended on the role modeling of the leadership and the consistency of a creative and well-trained staff with a unified, global vision. *

   (Seven nations, among 32, were initially deemed as subjects due to the success of their early programs; of these, one nation was omitted due to mobility challenges and teachers continually leaving the area.)

While parent participation was high in a number of cases, the educators did not cite high parental expectations as the differentiating reason for the success, even though we know that gentle, loving guidance and literacy stimulation can make a difference in early brain development.

What the educators noted was that even in cases where life was stressful at home, the teachers' training in how to integrate moral and academic learning had shaped the empathy and caring for the child, and this had helped them develop confidence and apply their curiosity. In some cases, by early elementary age, the children went home and taught their parents about moral leadership, integrity and conflict resolution.

Students had applied a deep level of concern for members within their own families and for their extended human family.

Global Snapshot

Full-Circle Learning teachers from America, Zambia, China, Papua New Guinea, and Ghana (left to right, top to bottom) teach, plan, train, and look ahead to the future.

Why We Learn elucidates the theory behind the educational model that has galvanized learning communities around the globe.

Full-Circle Learning (FCL), a global nonprofit organization, has touched the lives of learners and learning leaders across 35 nations, currently reaching 650,000 students per year, at this writing. The first FCL programs began in 1992, to help young people integrate their academic skills and character strengths to embrace their role as society's change agents and humanitarians. Founder and writer-educator Teresa Henkle Langness has written for multiple textbook publishers and companies and has published books in multiple genres, while working with schools worldwide.

Educators commented in 2018-19:

Everything I have taught from the beginning of the year has been connected to some sort of [current events] phenomenon…It doesn't get any more real than this."
– Christopher Andrew, teacher from Tarzana, California

"Full-Circle Learning fits everywhere!"
– Letty Abrego, teacher from Piru California

"This program is designed primarily to serve teachers, students and the communities where they reside. Witnessing students in Chad, who advocated for water supplies to help save famers' plants during dry season, and seeing how a whole community was electrified in Zambia as a result of small group of concerned students who wanted to serve their community, was just fundamentally out of this world for me. By 2017, we had over 25,000 teachers implementing the program in 1,500 schools in Africa alone. *African children served rose to more than 600,000 over the next two years.* Students are learning the habits they need to become the change agents of their generation…There couldn't be any more valued contribution than this."
– Davidson Efetobore, Full-Circle Learning Continental Director, Africa

"I feel like doing nothing else apart from volunteering and touching lives in a unique way that will bring dignity and love to mankind."
– Christopher Swen, Liberia Learning Leader

"This school model is a blueprint to help propel humanity into its next evolution of world action." *– A Liberian Full-Circle Learning Teacher*

"… Through years of practice, we found that the practice of the FCL model provides a good platform for teachers to … feel the positive impact of character learning on children… it also allows teachers to experience more educational significance and value…because they realize that they are not just a trivial …teacher, but a person who can positively influence and change the world, and they are participating in the construction of the human family.
– Zhejiang Normal University, China, Project Team

(Project Leader Dr. Jin-mei Gan, center,
2018 Greentown Philosophy Conference)

FULL-CIRCLE LEARNING