

The Next Frontier in Education

The American educational system was modeled after the Prussian Army, an organization skilled in transforming ordinary citizens into soldiers who follow orders without hesitation. Factory forms of education were needed to feed the emerging industrial society and children were the raw materials of these factories. Social engineers, anticipating the needs of the emerging factory society, took their cues from the military and fashioned our present system using simple Pavlovian conditioning, behavior modification, external rewards and punishments. Like bottles in an assembly line parenting styles followed the model set by these institutions. Soon what had never been before became commonplace, expected. The social engineering goal implicit in the original design became transparent. You can see it today. Each morning millions of parents obediently place their children on the conveyor belts of these institutions with the best of intentions.

The social engineering goals of American education may have served a specific need at a specific time and in this light may have been “well-intended.” The industrial society is gone, however, and so is the need for the kind of human being this system was designed to produce. But the intent imbedded in the original design remains, and like the Sorcerer’s Apprentice keeps grinding out the same kind of human being year after year.

Referring to a Carnegie study, Joseph Chilton Pearce points out that only five percent of everything we learn in our lives we learn in school. The remaining ninety-five percent is the result of direct experience. And of this five percent we learn in school most remember only three to five percent for any length of time. Bottom line productivity of three to five percent of five percent may have been adequate to meet the social engineering needs of our emerging industrial society. But not today, not in our brave new future shocked world.

Gordon Moore, an inventor of the integrated circuit, who later went on to run Intel, noted years ago that the surfaces of transistors are shrinking approximately fifty percent every two years. Every two years we get twice the circuitry running at twice the speed for the same price. In human terms the adult brain possesses 100 billion neurons. By most calculations 100 billion bits of RAM will be standard equipment in computers in the next five years. This exponential growth is known as *Moore’s Law of Accelerating Returns*. Merrill-Lynch, feeling the impact of *Moore’s Law*, estimates that “fifty percent of the average employee’s skills will be outdated in three to five years.” The faster information and technology grow the faster basic assumptions underlying our approach to parenting and education become obsolete.

Traditional parenting and educational models assume that children must be trained in certain skills, embody certain information in order to become productive citizens, which is a nice way of saying, “to get a good job.” This translates into curriculum, standards, tests and grades, measurements to insure that the assembly line is producing properly.

Standardized curriculum and “teaching to the tests” create industrialized human beings, which are increasingly out of date in today’s fast changing world. Reformers tinker with the conveyor belt, starting children earlier each year. Recess, physical education, art and music have been eliminated, making room for more tests and drills. Despite these efforts the assembly line falls further behind. Large scale social institutions cannot meet the demand. They can’t adapt fast enough.

Visionaries have long proclaimed that the system can’t be fixed. Educational reform, like recycling, is a bad idea that looks good. Recycling is a bad idea because it promotes the manufacture, use and disposal of wasteful toxic products. A deeper response would be to create products that are not toxic or wasteful. Reform is not the answer. The time has come for a deeper response to parenting and to education.

Responding deeply calls into question basic assumptions. Educating children, for example, is not the next frontier. Children aren’t the problem, never have been. Children are natural learners. The last decade of brain research confirms that human development is experience dependent. The outer environment and the inner world of brain development are two sides of a single complex system. Experience with the environment alters the brain’s structure, chemistry, and genetic expression, often profoundly throughout life. Children aren’t the problem. We can’t fix the system.

The environment sculpts the developing brain. This points to what Joseph Chilton Pearce refers to as the “model imperative.” Reaching and engaging individual adults, moms and dads, families, coaches, their personal networks and communities, now supported by information technologies, is the next great challenge in education.

With the speed, passion and whole-systems approach that took us to the Moon we are now challenged to awaken and develop a new and fundamentally different adult model, one that sees through the false hopes and false fears imposed by our current forms of parenting and education. Only such a model can mentor a new generation of children and through them a new intelligent, creative, sustainable culture.

The typical adult mind, however, having been so deeply conditioned by its parenting and educational experiences, has lost the capacity to see beyond the limitations imposed by this conditioning. David Bohm, a world-class physicist, put it this way:

We are faced with a breakdown of general social order and human values that threatens stability throughout the world. Existing knowledge cannot meet this challenge. Something much deeper is needed, a completely new approach. I am suggesting that the very means by which we try to solve our problems is the problem. The source of our problems is within the structure of thought itself.

Bohm describes how the natural intelligence of the mind becomes distorted by its conditioning. Conditioning of past experiences resonates throughout the body and mind as thoughts, images and feelings.

Bohm understood that ideas and theories are not the “absolute truth,” but rather, provisional proposals to be explored and adapted through examination and play.

Implied in Bohm’s work and that of Pearce are two fundamentally different “states of mind,” the conditioned mind, educated, filled with content and reflexive, and the unconditioned, natural or original mind, pure potential, the innate capacity to learn and therefore to transcend the limitations and constraints imposed by our conditioning, self-image and beliefs. The conditioned state focuses on content, the past, what has been learned. The unconditioned state gives attention to the present, to capacity, possibility, what new discovery might be made now and the excitement this possibility brings.

The brain loses track of the fleeting nature of its own processes. It tends to treat almost everything it “knows” as though it were permanent and “true.” In other words, we form beliefs. We don’t treat beliefs as proposals. We treat them as facts. Beliefs involve assumptions that operate beneath our awareness. These tacit assumptions build up over time, creating a set of predetermined “knee-jerk” reflexes. Much of what we call thought, parenting and education is based on what Bohm calls the “reflex system.” Conditioned reflexes are great for finding our socks or driving the L.A. freeways. There is a catch. Reflexes involve little or no intelligence.

A unique characteristic that distinguishes a brain from other organs is the capacity to create images. Thoughts are mental images. Beliefs are even stronger mental images. The beliefs we have about ourselves, our self-image, predispose us to relate to the world in predictable ways. Compounding our confusion, the brain tends to merge beliefs with our self-image. If someone challenges a deeply held belief about God or contrary, for example, we feel as though our very essence is attacked. We defend our beliefs as if we are attacked physically. The more deeply the brain is conditioned by beliefs, the more the reflex system is activated. We don’t choose our reflexes. They happen mechanically. All of this creates a general state of confusion in the mind. Like a dog chasing its own tail we try to solve the confusion in our lives by using the confused mind that created our confusion. Expecting such a mind to raise healthy, sane and creative children is crazy. We must bring our own house to order before we can model and mentor order for our children.

Moore’s Law of Accelerating Returns compounds this challenge. Historically information and beliefs had a long shelf life, hundreds or even thousands of years. Knowledge was power. Not any more. Our beliefs are challenged as the world speeds up, becomes more abstract, smaller and more complex. The exponential rate of change is challenging not just particular beliefs but the entire belief system. The inflation of information devalues its meaning. We are pushed closer and closer to Bohm’s position of treating what we know as temporary tools, to be used when appropriate, rather than as absolute truths.

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Our identification with knowledge and belief, with its implicit defensiveness, is eroding. The good news is that this frees energy and attention to access and express other states, creative intelligence for example.

Joseph Chilton Pearce tackles this in his latest book, *The Biology of Transcendence*. Transcendence is defined as moving beyond limitation and constraint. And what is it that must be transcended?

First it is the limitations of one’s present and earlier stages of development as new stages open and unfold, physically, emotionally, intellectually and spiritually. Second and intimately interwoven with the first, we must

transcend the limitations imposed by culture. Culture is the particular set of beliefs, customs, and expectations, the accepted self-world view of the group we develop in – how every good little girl and boy, and later every good parent “should” behave.

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Ashley Montagu, in his book *Growing Young*, refers to this original unconditioned state of mind as the “genius of childhood,” bursting with curiosity, imaginativeness, playfulness, open-mindedness, willingness to experiment, flexibility, humor, energy, receptiveness to new ideas, honesty, eagerness to learn and love. None of these qualities refer to specific content, knowledge or experience. They describe the natural and therefore optimum state of mind to meet, explore and be transformed by its interaction with a dynamic changing world.

Our traditional factory-conditioning model of education values content and asks: “Did we get it right? What is our score?” Every evaluation implies a degree of failure. This potential failure is implicit in every learning experience.

The very structure of factory model implies anxiety, a relative degree of defensiveness as we approach each new challenge. Failure is built into the system, which cripples learning and performance.

The next frontier in education and parenting shifts attention from “what is” to what “may be,” to the natural unconditioned state of the mind and its limitless capacity to learn. From this perspective we would never ask: “Did you win?”

Our only concern would be: “What did you learn and did you enjoy the experience?” No failure is implied in these questions. There is no anxiety. The new frontier is called “state specific learning and performance.” Pearce summarized this emerging model years ago in his book *Magical Child*. “Play on the surface and the work takes place beneath our conscious awareness.”

State specific learning means that the “state” of our body and mind as it meets a challenge shapes our response to that challenge, it shapes our performance. Performance and learning are “state specific.” Specific skills and content emerge from specific learning states. Optimum states express as optimum performance, optimum learning.

Only by following intelligent, adaptive, creative, learning adults, something our present systems discourages, will our children develop the capacity to lead humanity into a sustainable future. Developing competent adult learners, passionate individuals who are learning explosively right alongside the children they love, this is the next frontier.

In optimum states we access the genius of childhood, the full spectrum of our potential is active, alert, ready to meet any challenge fully and completely. Athletes call optimum states the *Zone*, researchers call it *Flow*, and children call it *Play*.

Children are not the problem. The system was flawed from the beginning and can't be fixed. Current brain research and *Moore's Law of Accelerating Returns* points to the environment, what Joseph Chilton Pearce calls the “model imperative,” as the dominant force that shapes the future of humanity. The next frontier in parenting and education challenges individual adults to become adaptive agile learners just like the children they are mentoring.

We are at the threshold. Attention is shifting from child development to adult development. Education and parenting strategies are shifting from content-driven conditioning to the cultivation and development of optimum learning states.

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Michael Mendizza

Love of the Game

Applying what athletes call the Zone to parenting and education

Athletes, martial artists, musicians, dancers, people whose lives depend on peak performance? describe a magical state where extraordinary performance is easy. They call it the *Zone* where their personal best flows naturally, without effort. Researchers call this state of optimal performance *Flow*. Children call it play.

The *Zone* is not some far-off, mystical fantasy. It is right here, right now, pulsing in every cell of our bodies. Optimum is easy, the miraculous natural when resistance to learning and peak performance are reduced or eliminated. If being in the *Zone* is good enough for athletes and Aikido masters, why not for you and me? Imagine a world where adults give as much attention to perfecting their relationship with children as athletes give to playing their game.

“Acute well-being, peace, calm, stillness, detachment, freedom, weightlessness, ecstasy, power, control, being in the present, mystery, awe, unity, altered or extrasensory perception, flow, optimum experience, authentic play... These technologies of transformation can be applied to all aspects of our lives. If we look for the patterns of activity that lead to these experiences we can start training for them.”

Touch the Future Interview

Michael Murphy

Co-Founder, Esalen Institute, Author:

In the Zone, Future of the Body,

Golf in the Kingdom, God in the Expanding Universe

Only by following intelligent, adaptive, creative, learning adults, something our present system discourages, will our children develop the capacity to lead humanity into a sustainable future. The next frontier in education, therefore, is not about places and technology, schools and the Internet. It is about human relationships, especially the relationship between adults and children. The dynamic flow of experience that moves between adults and children shapes the developing brain.

Here, in this intimate interface between mothers and babies, fathers and daughters, boys and coaches, girls and teachers, the future of humanity is defined. Optimizing the “state” of this relationship is the next frontier.

The next frontier in education is moving us away from “content” to a rediscovery of the natural unconditioned state of the mind and its limitless capacity to learn. Our forced, compulsive appetite for “information” the endless cycle of cram-test-grade and forget is fading. In its place a new state and a new culture is emerging, present, passionate, curious, open, adaptive, and honest.

The next frontier in education is transforming the authority of the parent, teacher and coach into an adventurous exploration of “shared meaning,” wonder and co-creativity. The light of true intelligence meeting, absorbing and transforming the present moment is replacing fixed formulas, rigid schedules, moralistic demands, rewards and punishments.

Children are recognized and honored for what they are - agile, adaptive, courageous learners who seek and partner with mentors who have mastered and model these same qualities.

Resources and attention are shifting from child development to model-mentor development. Adults are encouraged to spread their creative wings, inspiring every child they meet to soar even higher.

Unprecedented rates of change are redefining the meaning of education. The known is yielding to and inviting the unknown. Asking deeper questions is replacing having the right answer.

In the “good old days” when the world was flat and knowledge stable, past experiences were reliable predictors for present challenges. The human brain and body were fashioned by this basic assumption. As the rate of change began to speed up the reliability of the past broke down. In the 1960s futurists foretold of the shock this breakdown would bring.

The relative importance of knowledge, that is, the past as predictor of the future, was diminished as technology pushed more data through the system. Supply overwhelmed demand. The global flood of information has reduced the lifespan, appeal and value of bits and bytes. Unintended, this devaluing of information freed attention to rediscover and develop other capacities - intelligence, curiosity, imaginativeness, creativity, and wonder.

This radical change has altered the landscape of parenting, coaching and teaching. Center stage is a new vision: state specific learning and performance. *The state we are in as we meet a new experience is the content we learn and remember from that experience.* The latest brain research confirms that states of being, which mirror our relationship to the world, literally shape the developing brain. The implications are profound. Giving attention to the state we are in as we do what we do allows creative participation in every stage of human development, our own and that of the children we love.

For years wise educators called this active participation “experiential” learning. Digging in the sand, finger painting, riding a bike, dancing, catching a ball are all experiences. The meaning enfolded in these encounters is important but greater still is the importance of the “state” we are in as we meet these experiences. What we learn and how we perform is defined by our state as we meet each new experience. Dancing in public with a pretty girl may be life threatening for a shy self-conscious boy. It is not the experience; it is our interpretation of the experience that shapes what we learn.

State specific learning recognizes that the environment and the body/brain/mind are not separate. Development is shaped by what takes place in the interface between these two.

The environment may be nature. It may be media, plastic toys, or puppies, but most of all, in terms of child development, the environment is adults. Suddenly a new light is cast on child and family development. The state of the adults, as they meet and relate to *their* world, is the dominant force that shapes child development. The key to improving child development is optimizing the state of the adult. Joseph Chilton Pearce calls this the “model-imperative.”

No capacity can unfold without an appropriate model and proper nurturing. A child can imitate, or construct a model of his universe, around any model, and respond accordingly to this construction. He does model what he is given, and so does as we do. He is blocked not because of some innate lack, but from an outer lack of models and nurturing... We do not model our lives according to theories or abstract functions, but according to live, visible, tangible models. We do not bond to universal processes but to persons. The power of the bond can come into our life only through the power of the bonded person.

What about genes, talent, multiple intelligences? As cellular biologist Bruce Lipton describes, genetic blueprints are not fixed. Genes express new patterns in response to new environmental signals. For the child most of these signals come from adults.

If states are content, if learning, performance and wellbeing are state specific, the burning question is “what is the state of adults, moment to moment, as they relate with children?” Is it healthy, clear, quiet, and sane, or confused agitated, anxious and disturbed?

Looking at the general state of adults we discover two powerful forces, each expressing as different state.

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One is true intelligence. The other is habituation with its reflexes. A simple analogy for the first is wakeful, alert attention; for the second the trance like condition we call day-dreaming. Real learning occurs in the state of playful inquiry. Intelligent, playful inquiry demands heightened awareness and attention the intensity of which forges new connections in the brain. Once established, new neural patterns and their corresponding insights become fixed.

What was original and new becomes established and known. Wakeful attention grows dim as the unknown becomes known. The state of the body and mind shifts from active attentive learning to passive remembering.

We wake-up when confronted with new challenges. Attention dims as experiences become familiar. Belief sets in. The familiar brings comfort. This pleasure/pain principle generates a strong predisposition to assume, cling to and defend all beliefs as if they are true. This creates a subconscious ocean of prejudged responses that shape much of our behavior. Physicist David Bohm called this ocean of assumptions “the reflex system.” He described how assumptions often distort perception, mask true intelligence and reduce much of human behavior to knee-jerk reflexes.

Bohm described how this pleasure/pain principle creates in the brain an immune-like response. When new information enters, the brain quickly classifies it as friend or foe. If the new perception supports what is already known it is absorbed and used to justify and defend existing beliefs. If the new insight challenges fundamental beliefs, it is immediately surrounded, neutralized and very often rejected. At normal levels of attention this reflex system operates beneath our awareness. It takes over. The more experience and data we accumulate the greater and stronger this defensive reflex becomes. You can see it in yourself. Challenge any cherished belief, whether about religion, politics or the behavior of our children in public, and you can feel it spring into action. Bohm was particularly interested in how this immune response biased and blinded scientific inquiry.

At the very heart of this defense system is the image we have about ourselves. Everything we have ever experienced, learned and remembered is woven into the tapestry of our self-image.

True or false doesn't really matter. Challenge a cherished belief - God, country or apple pie - and we defend it as if we are being personally attacked.

Like castle guards this defense system maintains the existing order. Once a belief is established - the earth is flat, for example - it takes a great deal of passion, energy, and intelligence to see otherwise. The reflex system keeps pulling our attention back into the system. The faster things change, the more information we accumulate, however, the more often our self image is challenged by contradicting data, the more disturbed, confused and defensive our state becomes.

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Pushing more information into such a disturbed system, which is what “education” is designed to do, only makes matters worse. The next frontier in education, therefore, has little to do with information and a great deal to do with the state of the mind that is processing information.

While the West was colonizing the outer world, the East, especially those in the land of snow, the Himalayas, were exploring these inner states. The

essence of these inner-explorers' secret oral teachings is to perceive directly the image-making nature of the brain and to not confuse the inner image for anything other than what it is, an image. So powerful is the capacity of the brain to create images that it easily and often confuses itself. This confusion builds up over time and is the major source of personal and global conflict. Buddha, Jesus and other teachers understood this. Those less clear unfortunately created images about these teachers adding to the general confusion these very teachers tried to dispel. Our challenge is to rediscover the natural intelligence of the body/brain/mind before it was caught in this self-inflicted cycle of confusing images, conflicts and reflexes.

Compared to most adults, the child's mind is less corrupt, less conditioned. Innocent and original, the childlike mind has energy, curiosity, wonder, honesty, imaginativeness, eagerness to learn, flexibility, humor and affection. It is not so weighed down by the past. Nature's intention is to maintain this childlike state of mind as we enter and explore evermore complex and abstract realms of experience.

Bohm described how Einstein displayed this balance between intelligence and intellect. The *state* modeled by children is what adults need to discover this balance, while the *information* adults have to share is what the child needs. Each is modeling and mentoring different states which correspond to the needs of the other at their particular stage of development. Optimizing this reciprocal dynamic is the next frontier in education.

There is no difference between the state of one's consciousness and the environment created by that consciousness. As great teachers have pointed out, the image we have created about ourselves is false. The chronic insecurity created by the breakdown of bonding, family and our relationship with nature feed into the construction and maintenance of a false center from which we act, create, justify and defend. Much of what we see and do is filtered through this center.

Like a lens it defines the images projected in the brain.

In rare moments of deep entrained relationship this needy, dysfunctional center is not active. The self-inflicted disturbance this center creates subsides, making way for our authentic nature to reveal its essence, to walk on fire, break the four minute mile, to see the future, to feel the thoughts and presence of another, like whales sounding in the ocean a thousand miles away.

We can't solve a problem at the level of the problem. The creation and extension of this false image is the problem. It is the center, the tool we use to try to fix the problems that every use of this tool creates.

Rediscovering the natural order of the mind with its vast intelligence begins with attention. The instant our habitual auto-pilot reflex system is switched off, a new, more attentive, curious state resonates through the body and mind. Children have this attention naturally. For adults this attention demands gathering energy, care, and passion to see beyond the reflex system. Without this energy and passion we remain trapped in our own defense system.

In the light of this new attention, we begin to see the false hopes and false fears attributed to our self-image. The illusory chain that binds our personal identity to all the knowledge and beliefs we have - national, political, racial, religions, gender - begin to melt away. In this light we begin to see ourselves and relate to the world differently, no longer identified and bound by cultural beliefs.

We begin to see how much of our life's energy and attention has been wasted fearing, anticipating and compensating for what others might think. We see that defending and justifying our self image encourages and conditions children to do the same. Soon we begin to hit the ball, dance, and sing, freely and completely, as if nobody was watching, just like a child completely absorbed in play.

Imagine a child mentored by adults who live in such a state most of the time. What a different human being that child would become! What different culture would emerge!

The goal of most spiritual practices is gathering this energy and attention to lift us out of the reflex system. The next frontier in education places the adult-child relationship at the center of this practice.

From this center the care, respect and affection, adults-for-children and children-for-adults, radiates into a living meditation. In the light and mirror of this relationship the chain of false beliefs that bind the adult is broken and the child grows free of the self-inflicted limitations that cripple most adults.

In this light we listen and see our children as they are, immediately, with all of our attention. We allow this mindful seeing and listening sink deeply and from this depth we mine together our richest treasures to feed the fire of our shared meditation. Do they or we deserve anything less?

The next frontier in education is renewing the adult mind and body with this childlike energy, curiosity, wonder, honesty, imaginativeness, eagerness to learn, flexibility, humor and affection. What would education look like if you and I renewed our lives by living in this state, moment to moment? In this light our children and we can learn and accomplish anything. Without this foundation the endless cycle of cram-test-grade and forget has very little meaning.

No longer can we hand over the responsibility for education to government, schools, churches, television or the mall. You and I are the next frontier in education. The intimate relationship we share with children is our curriculum.

Michael Mendizza