> *"Civilization advances by extending the number of important operations we can perform   ...without thinking of them."*   Alfred North Whitehead

THINKING ABOUT RETHINKING

WHY GETTING "OUT OF THE BOX" MAY FIRST REQUIRE GOING DEEPER INTO IT.

A scan of educational publications today suggests that everyone seems to be calling for *rethinking.* … for "getting out-of-the-box"… for "changing the *paradigm."* Why now? Why is it turning out to be so hard? And why is it so particularly frustrating for those who have proposed and developed "out-of-the-box" solutions, and who then find that few, if any, seem to be sustainable in the larger real-world "box" they have jumped into?

Why now?

We all share one universal characteristic over which we get no vote. Things must *make sense,* and we carry a wonderful sense-making "machine" between our ears to make sure they do. This shifts into overdrive when things no longer make sense …when what we see doesn't connect with what we understand …when things that we "know" should work, don't, and we can't figure out why …and when nothing seems to help. [1] For policy makers today, this *sense-making* drives their pervasive calls for "systemic solutions." They "know" something must be done and the only thing that seems to make sense [in both human and political terms] is to *"Change it all... and do it now!*

Education is not alone, it should be noted. Peter Drucker documented the universality of the condition as well as its common cause.

> Today, all over the world, previously successful organizations are facing a "*what to do*" dilemma. They find themselves "stagnating and frustrated, in trouble and, often, in a seemingly unmanageable crisis." And it happens just as often in public sector organizations as businesses.
>
> "The root cause of nearly every one of these crises is not that things are being done poorly. It is not even that the wrong things are being done.   Indeed, in most cases, the *right* things are being done -- but fruitlessly.
>
> What accounts for this apparent paradox? The assumptions on which the organization has been built and is being run no longer fit reality. These are the assumptions that shape any organization's behavior, dictate its decisions about what to do and what not to do, and define what the organization considers meaningful results.
>
> …They are what I call a company's *theory of the business*."[2]

Why should it be so hard and frustrating?

When situations consist of fragmented, disconnected elements and demands to make sense of them aren't producing intended results, normal responses focus first on *fixing* the separate parts, and/or *connecting* them differently. We develop charts and tables comparing and contrasting old with new so people can see and understand what's missing. New connecting lines are drawn on organization charts. And often in the end, either the new web of relationships seem even more

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[1] For a more detailed look at what happens in the world of organizations when the "box" no longer seems to contain the solutions to the problems they were intended to address, see an earlier *On the Horizon* article "Assessing the Case for Paradigm Shifls," by Richard B. Heydinger. And for higher education in particular, see "Time, Faculty and ther Academy," Tom Abeles, July/August 2000

2 Peter F. Drucker, "The Theory of the Business, "Harvard Business Review,   September-October 1994

messy, or the "logical," and "systematic" fixes they are intended to support can't be maintained or sustained by the "system."

 Eventually, some give up trying to make sense that way and look for alternatives elsewhere. …outside the "box." Get out of box, look at the problem from a different perspective, and see what new solutions -- or even *epiphanies* -- might appear. Because of its potential to produce these *epiphanies*, paradigm-shifting has become a major, and needed, change strategy.

Some find new sense-making "boxes" when the thoughts and writings of theorists such as Drucker, Deming, Senge and Wheatley help them realize the nature of the "systems" that frame their work. Many emerge as systems-*thinkers*, but then must confront a frustrating reality where they seemingly can't apply these newly-perceived natural principles and ways of thinking to the actual *scope* of their systems. They lack effective ways to complement systems-*thinking* with systems-*acting*.

In some ways they are like early doctors with *information* about the connectedness of all the body's systems, but who only have *procedures* to deal with them one-at-a time. And especially critical, they lack means for treating the connecting relationships necessary to sustain them all. Therefore, they cannot accommodate the *natural* requirement that connectedness is a *given* -- they are always working in the *now* with a *whole* entity.

Do it Yourself Sense-Making

Others have sought to develop their own sense-making "boxes" or mental models. As the eponymous "connecting the nine dots" example demonstrates, once you know the secret, it *should* be easy. That is, until this paradigm-shifting task runs into the human mind's basic sense-making programming which doesn't want to let go of the invisible "box" that already frames and gives meaning to what we experience and have experienced -- the window that enables us to see what we believe and believe what we see…*without thinking*.[3]

This creates a *Catch-22* condition that might be visualized as Escher's hand drawing the hand that is drawing it. In the mind, data emerging from continual experiences also feeds the processes for making sense of that experience. Unfortunately there is a glitch, that has been recognized for years, in the mental wiring that processes this experiential data into knowledge. It's called "naive common sense," or "common sense realism." These are *"theories that the world is perceived exactly as it is*. We see it, and therefore believe it. Observable experience tells us it's so. The earth looks flat, it must be. The sun appears to move around the earth, therefore the earth must be at the center.

Frame or paradigm shifting therefore is made even harder when the old frame for thinking seems to support what one directly <u>observes</u> and has <u>experienced</u>. Just ask Copernicus!

And not since Copernicus has this thinking disability had such a major consequence on human progress because now it directly effects the nature and quality of children's developmental experiences in schools. Einstein once said that common sense is nothing more than childhood prejudice. And in schooling that becomes dangerous for we are all veterans or victims of the schooling experience. It has shaped our "theories of the business."

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[3]. "Civilization advances by extending the number of important operations we can perform . . . without thinking of them."   Alfred North Whitehead

What we "saw" and "felt" have become accepted as what teachers, students and schools generally <u>do</u>. It has become the common sense of common practice. And at its core lies a deeply-embedded "naive theory" currently influencing <u>all</u> of the system's relationships. Just as it appears to the eye that the sun circles the earth, it appears that teachers "cause" learning, and principals "cause" teaching.

<u>Common Sense Realism</u>

When teaching young children we expect them to hold "naive common sense theories," until taught otherwise. But for adults, the "teaching" [or unlearning] task is much harder because the roots of "common sense realism" go much deeper and have become entwined with other observable conditions that we "saw" because we believed. And as we know from *Copernicus'* and *Galileo's* unfortunate experiences, alternative explanations for *why* things happen have a difficult time breaking through what adults think they "know" if they still can get by without the extra work of re-thinking every action.

For example, before *Copernicus,* work could still be done, people could still plant and harvest, and could get from here to there even if they believed the earth was flat and the center of the universe. They may not have accomplished their tasks as effectively as they could have, but their "common sense" could get much of the work done. The only ones who would have had to take the new theory seriously would have been those whose task accomplishment required it. For example, had NASA existed then -- using "common-sense"-based pre-*Copernican* maps -- they could do everything "right." They could have the best trained astronauts and the latest equipment, <u>but would seldom get where they intended to go.</u>

If their frustration seems similar to that in many of today's schools -- operating with a sound base of knowledge and skilled practitioners -- but still not "getting where they want to go" with *all* children, then we might want to look more closely at what Copernicus' experiences taught us about the difference between a "map" and the "territory" it represents. Then, returning to our original metaphor, ask whether the "box" we're getting out of represents that map or the unchanging territory?

If the former, then in addition to rising above the "dots" forming the box in order to see them from a different perspective, we have to head in the opposite direction. It requires burrowing beneath the box to find its underpinnings in the territory. What are the assumptions and beliefs that are creating the size and shape of that container? Is the box real, or just a figment [as Drucker suggests] of our assumptions?

<u>The "Map" and the "Territory</u>

Leaders, today, are like *convoy commanders* [4]trying to ensure that their convoy of separately navigated "ships" together reach their common destination safely. They are increasingly navigating though relatively uncharted waters, and finding that all their vessels aren't getting where they must to go.

To figure out why, they are beginning to question the "map" they have been using. This map -- the plot board for organizational problem-solving -- exists on *paper* in every organization. Its ubiquitousness derives from its pre-existence in everyone's *mind*. This embedded mental model

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[4] see "TOTAL *SYSTEM* MANAGEMENT: The Leader as Convoy ," presented at *PARTNERS for QUALITY* Third National Governor's Conference Minneapolis, MN, April 19, 1994

is the organization chart. There have been continuous indicators [in both research and personal experience] that this map doesn't portray the nature and interrelationships of the system's *work*. Yet tinkering with it by flattening it, turning it upside down, or making its own "boxes" autonomous doesn't seem to work. Apparently this "map" is not the same as the *territory*.

A *territory* has unchanging features. In geography, these are natural conditions that will be encountered and can't be ignored. They provide the context for the journey. Whether or not they are considered positive or negative may depend upon whether they are recognized and used to further that journey.

Maps are created from assumptions and beliefs about those natural features. These maps represent what we *think* we see, or have the knowledge to see there. On these maps we "draw lines" to connect what we believe are the territory's unchanging elements and their requirements, and then build organizational "roadways" of relationships and information flow to sustain the interactive nature of the traffic between them.

What does the *Territory* look like?

If a map is not the territory, what do we know about the territory on which the structures of schooling-- the classroom, the school, and the school system -- are constructed that we haven't been able to portray? What are the natural features of that territory that don't change? And why should it be so hard to see them?

What we have not been able to "see" until cognitive research and computer technology recently gave us the lenses,[5] is that the territory in which the *work* of schooling takes place is the human mind. First, we peered into the brain and now know more about the natural ways that human minds learn -- both children and adults. And, second, we looked at *natural systems* - biological, physical and social - and found how they naturally develop and learn *as systems*.

Combining the two, we've seen that the most powerful change process occurs not at strategic level of the organizational system, but at its microlevel where the system's relationships, interactions, and simple rules shape the mind's "products" -- actions. And when the organization's formal structure coherently and consistently aligns and supports those interdependent relationships, creative ways to achieve effectiveness emerge naturally from within the organization.

Interactions speak louder than words

What we now "see" seems to confirm centuries of educational "theories." It suggests that each child is not a passive receptacle for information, but is born with an innate *biological* capability for learning, that is fostered by some kinds of interactions and stifled by others.

In other words, biologically, teachers are to children's *mental* capacities as pediatricians are to their *physical* capacities – the appliers of knowledge over time, delivered through *continual interaction*, that is needed to help them develop into healthy adults.

Consider the structure of a child's healing process. No one in the medical profession questions that the actual healing takes place over time within a bounded, connected system called "the individual child." Nor that "curing" many times takes place in a bounded, connected system called the hospital. The doctor and the hospital take measures to set up an environment within which the patient's body (and mind) can best co-manage his or her own healing over time.

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[5] As did Galieo for Copernicus…*"Once something is seen, it can't be made to be unseen."* Brecht - Life of Galileo

These <u>system processes</u> ensure that everyone's efforts stay aligned with what "standards" say <u>results</u> should be, even though roles are played out in different places and time frames.

Actor	Patient	Doctor	Hospital administrators and staff	Medical community
Activity	Manages the *healing* over time	*Curing:* removing constraints on healing and opening opportunities for healing, thus helping the patient manage healing over time	*"Hospitaling:"* providing an environment and tools that help the doctor manage curing over time.	*Knowledge-developing:* Developing, testing, and sharing the knowledge that makes hospitaling and curing more effective over time.
Time frame	Moment by moment	Hour by hour	Year by year	Continuous

From this perspective, the more <u>information</u> that travels back and forth through the system, the more effective everyone can be. No one holds the pediatrician or hospital accountable for the patient's temperatures, pulse rates, and blood counts; only for *doing something* about them.

Everyone in the system knows that the essence of high-quality medical practice is <u>interactive responsiveness</u> among all the parts of this system to the data that are indicators of a child's health at any given moment. And because of this "knowing," a fundamental assumption is that effective actions require continual access to that individualized data to support the core work process --*diagnosis and prescription.*

<u>The "territory of *learning*</u>

What might we see if, before mapping the structures of schooling, we accepted -- *without thinking* -- the learning requirements of the natural territory?

(1) Everyone would accept that *learning* takes place over time within a bounded, connected system called "the individual child." And that *teaching* takes place over time within a bounded, connected system called a "school district."

(2) The teacher and the school would take measures to set up an environment within which the student's mind (and body) can increasingly take charge of his or her own learning over time.

(3) The *system's* "processes" would ensure that everyone's efforts stayed aligned with common "results" they all seek, even though roles are played out in different places and time frames.

Actor	Student	Teacher	School district administrators and staff	Educational community
Activity	Manages own *learning* over time	*Teaching:* Co-*manages* student's learning over time by removing constraints on, and	*Schooling:* providing an environment and tools that help teachers manage	*Knowledge-developing:* Developing, testing, and sharing the knowledge that makes schooling and teaching more effective

		opening opportunities for, learning.	teaching over time.	over time.
Timefram e	Moment by moment	Hour by hour	Year by year	Continuous

Where present "maps" have taken us

Obviously, present "maps" of schooling -- the "boxes" we're trying to "get out of," seldom reflect that territory. Without that framework, though, it is hard to map coherently the roles and relationships required for the connected "work" of schooling. Consequently, there is very little interactive responsiveness up and down the system; roles are isolated; there is little trust. These conditions are not new information, so why can't our present society act on new knowledge of the territory to re-map it?

The barrier: the common sense of common practice -- the *common sense realism* and that shapes our beliefs about the "boxes" where learning and teaching take place. Just as the earth still looks flat and it seems that the sun revolves around the earth, when you look into classrooms it still does seem that teachers "cause" learning. And when you look at schools it seems obvious that everything a teacher might need to cause learning can be found there at the school site ... principals "cause" teaching. A *teacher* and the *teaching process* are the same. A school *leader* and the *leading process* are the same.

Do teachers *cause* learning? Do building principal's *cause* teaching? Do acorns *cause* oak trees? No! Acorns, teachers, and principals are each critically necessary, but not sufficient, contributors to the final result. In each case, the other influences must come from the *environment* -- the immediate *system* of influences on the teacher/tree and the developing seed/learner. But because of our "common sense theories" we have trouble "seeing" the actual scope and nature of that immediate interactive environment the "system" must provide.

What we can't "see," and therefore can't plot on our present maps unfortunately, is the interdependence of roles. And when we confuse *individuals* with the *interdependent acts of individuals* (processes that empower individuals) look what happens. With *teacher-as-cause-of-learning*, and with *principal* as-cause-of teaching:

• Only one teaching role -- making *information* accessible -- receives systematic and systemic support. Insufficient resources exist to support more critical interactive dimensions of the teaching process not involved in the presentation of information. This puts all learning-centered instructional strategies at risk.

• To "fix" teaching, you must "fix" teachers! Teacher-fixing becomes the major thrust of never-ending staff development activities because it must be repeated every time a "fixed" teacher or staff member moves to another responsibility. Similarly, to fix [or change] schools you must plug in a new principal or "fix" the old one, and then when she or he leaves, start over again.

• If we want to hold someone accountable for the quality of teaching's results, it must be the teacher. Yet student learning is the outcome of a process with critical interrelated and interdependent elements for which only the "system" really can be accountable.

• Conversely, the school system is held accountable -- through its hiring and supervisory practices -- for the quality of the individual <u>teacher</u>. Yet this is a process of continual growth and development for which only the individual teacher can be ultimately accountable.

• That accountability model then is carried through to the classroom where teacher's are accountable for a process - <u>learning</u> - that is housed in and controlled by the learner.

• Comparatively little effort can be devoted to fixing *processes* that could support teachers' complex classroom roles, and which would then allow them to grow into these roles regardless of their initial competencies. Because these types of school system actions are not *direct* services to children, they are not seen as priorities for schools funds.

• And one final consequence, the *school system* becomes a dysfunctional *system of "schools."* Because there is no perceived need for it, there are few ways to connect those in central offices accountable for *all* the district's children with those in the buildings who are accountable for *each*.

<u>The "system"</u>...*map* or *territory?*

This is where our present maps have taken us. Acting on "obvious truths" continues to lead to seemingly logical conclusions. And they in turn have consequences on education's own abilities to take actions to get -- as a system -- where it must go.

Most notably, in a world of beings committed to making a difference for children, frustrated that *"nothing seems to work for long" and "everything seems to be connected to everything else,"* the next common sense answer for the inability to achieve timely results is that the problem must be out there -- it's the "system" -- the school system. Flatten it or forget it! Get the district out of the schools, or the schools out of the district. All we need are better teachers and better principals. Build a better school, and the world [with vouchers] will beat a path to its door.

This most current indicators of the consequences of this "seeming" logic can be found among public education's most committed and caring reform advocates in foundations and academe. The build up of frustration from over 30 years trying to *restructure, reform, scale-up* and <u>*systemically* change</u> schools without realizing the limits their own "maps" had imposed on them has led one national reform group after another to give up major attempts to improve school <u>districts</u>.[6] Since they still want to make a difference somewhere, their fallback position seeks answers in support of *independence* rather than *interdependence* because it seems more manageable.

And the same flaw in the logic of "systemic" change has surfaced most recently when the Memphis school district -- after 6 years and $12 million -- "pulled the plug" on their attempt to put "whole school" reform models in every building.[7]

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[6] "After three decades as a philanthropic pioneer in systemic school reform, the Edna McConnell Clark Foundation will phase out its work in public schools. The decision was fueled in part by what foundation officials characterize as the profoundly difficult task of forging lasting improvement in a system resistant to change. ... "You have to ask: Is investing in big systems the best way to achieve our mission? And I decided that it wasn't," Mr. Bailin said. "Because in order to do that, you have to change attitudes and behaviors of people in a whole system*.". Clark Foundation Shifts Focus, Pulls Out of Education*, EdWeek, February 14, 2001

[7] *"Memphis Scraps Redesign Models in All its Schools--...'Whole School' Reforms Wholly Eliminated,"* EdWeek, July 11, 2001

As illustrated above, common sense realism has imposed blinders that have proved costly in money, time, and human commitment. And, without a <u>map</u> that reflects the territory, it can continue to block serious questioning of "why" we continue to confront the same paradoxes that seem impervious to "logical," systematic solutions.

•   *Why*, when frustration with the *non-sustainability* of logical solutions leads them to seek *systemic* change, <u>can't</u> they *see* the "system" that is already there?

•   *Why* <u>can't</u> effective changes in classrooms and school buildings be sustained when a teacher or principal leaves?

•   *Why* <u>can't</u> a proven-effective building or classroom practice spread [or scale-up] to other buildings in its *own* district or building?

<u>Predictable failure…</u>

Without that map, the failure of these systemic solutions is predictable. It comes from not being able to "see" and think about the *meaning* of the concept "systemic," and how it is different from "systematic." While systematic describes the connection of events in time, systemic addresses the <u>scope</u> and <u>nature</u> of the *unit of change*.

A good illustration of this idea and how scope directly affects the nature of solutions can be found in Roger von Oechn's*, "Strawberry Shortcake for 25,000 people*.[8] The metaphor offers a simple way to understand how the scope of a problem changes the means for dealing with it, but <u>not</u> the individual nature of its ends.

It can help in understanding what seems like a paradox. Approaches that have changes in the "individual" teacher or school as the endpoint for their designs and evaluations, <u>never</u> produce the scope of change required for meeting the timely needs of *all* children. The scope, costs, and time requirements of that task make it impossible to achieve in time to deal with the scope and nature of the original problem. And, since the "maps" we rely on don't seem to make any other solutions apparent, the only practical fallback seems to be to at least get started with "*some."*

Without the new map, the changes can't be "seen" as the <u>natural consequences</u> of common system processes that enable them to take place for all.

And that, to be "systemic," the system must be the given <u>starting point</u> for improvement, not just the desired, scaled-up *end.*

Without getting out of our own box to "see" the territory of schooling in a way that offers answers to those "why?" questions, school practitioners may be doomed to continually working harder, but not smarter, ...and not helping themselves and their schools get where they want to go.

<u>Where will the new maps come from?</u>

If schools no longer can rely on the wisdom stored in universities, foundations, and government agencies to combat the conventional wisdom that prevents them from acting coherently and effectively for children, where then will the new maps come from?

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[8]   <u>A Whack on the Side of the Head,</u> von Oech, Roger, Warner Books,

In the next article we will explore the *natural* answers that emerge by tapping the territory's *natural* features to leverage and support the daily, connected work of supporting the <u>processes</u> of teaching and learning.

And we will see, as Lewis and Clark demonstrated, how maps can emerge from a journey that gets you where you want to -- and <u>must</u> -- go.