Education Reform: An Order-of-Magnitude Improvement

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Imagine the present corporately promoted education reform effort as a truck, its tires nearly flat from the weight of the many unexamined assumptions it carries.

On board: An assumption that punishment and rewards effectively motivate; that machines can measure the quality of human thought; that learning is hard, unpleasant work; that what the young need to know is some agreed-upon, standard body of knowledge; that doing more rigorously what we've always done will raise test scores; that teacher talk and textbook text can teach complex ideas; that ... well, you get the idea.

Misdiagnosing the Main Problem

Right now, the biggest, heaviest assumption on the reform truck has it that, when the Common Core State Standards Initiative is complete - when somebody has decided exactly what every kid in every state is supposed to know in every school subject at every grade level - the education reform truck will take off like gangbusters.

It won't. If all the reformers' flawed assumptions are corrected, but the traditional math-science-language-arts-social-studies "core curriculum" remains the main organizer of knowledge, the truck may creep forward a few inches, but it won't take the young where they need to go if we care about societal survival. The mess from this generation's political paralysis and refusal to address looming problems can't be cleaned up using the same education that helped create it.

What's wrong with "the core"? For its content to be processed, stored in memory, retrieved and combined in novel ways to create new knowledge, it would have to be well organized and integrated. It isn't. It's a confusing, random, overwhelming, intellectually unmanageable assortment of facts, specialized vocabularies, disconnected conceptual frameworks, and abstractions - the whole too far removed from life as the young live it for them to care about it.

So, they don't. They're being blasted with information at fire-hose velocity. The diligent and the fearful store as much as they can in short-term memory, and when testing is over, their brains

delete what's considered clutter because it's not immediately useful. The non-diligent and the cynical guess and/or cheat the answer sheets. The rest (and their numbers, understandably, are steadily increasing) opt out of the trivia game, or are opted out by thoughtful, caring parents.

A Different Organizer

There's an alternative to the core as an organizer of information and knowledge. We use it from birth to death, and we didn't learn it in school. It's the key to an order-of-magnitude improvement in learner performance.

For firsthand evidence of that system's potential, consider how much we learn and how fast we learn it long before we walk through school doors. Starting from scratch, we figure out how to meet personal needs; learn what's acceptable and unacceptable behavior; construct explanatory theories; master one or more complex languages; adapt appropriately to many different personality types; absorb the foundational patterns of action and premises of one or more cultures; and much, much else.

Our "natural" knowledge-organizing and integrating system's main components are those we use to create the most complete and sophisticated models of reality known - stories. To make sense of any and all reality, we seek answers to just five questions - Who? What? When? Where? Why? All knowledge is an elaboration of one or more of those five distinct kinds of information.

"We did something," communicates. "Because we were bored, Tanya and I went to the mall yesterday," elaborates. "Because Tanya Jones and I, Mary Smith, were bored, we went to Bath and Body Works in Eastland Mall in Columbus, Ohio, arriving in the parking lot a few minutes after three o'clock on the 13th of January," elaborates further. The exercise could continue, adding layers of increasing precision.

The more we know about a particular subject, situation or science, the more elaborations we have from which to choose. When Hippocrates wrote about cancer in 400 BC, he almost certainly didn't see it as a group of diseases, each sufficiently different from the others to warrant the range of labels that help today's researchers and doctors think and talk about cancer more productively. As cancer research advances, the elaborating process will continue.

We make sense by choosing from elaborating options for who, what, when, where and why, and weaving our choices together systemically. As options increase and potential systemic relationships multiply, ever-better sense is made, creativity is stimulated and knowledge expands.

An Unknown Known

Our sense-making system - like the concept of gravity before Sir Isaac Newton - is so familiar we don't think of it as a system. And, when it's pointed out, we tend to dismiss it as too simple and obvious to be important, much less the key to educational transformation. But made explicit and put to work, our implicitly known knowledge organizer moves learner performance to levels

far beyond the reach of the measurement capabilities of standardized tests, including the ones on which international comparisons are based.

Skillful use of the system can't be taught in the usual sense of the word - can't, that is, be transferred in useable form from mind to mind by words on a page, images on a screen or lectures from a stage. **Learners have to construct understanding for themselves.**

To appreciate the teaching-learning challenge, imagine trying to explain water to a fish. Success requires that the utterly familiar be made "strange enough to see." A five-hour lecture to a fish on the subject of water wouldn't match the memorable experience of being lifted out of the water for a five-second exposure to air.

Experience is the best teacher, but attention must be paid. Adolescents, encouraged to look long and hard at particular, ordinary experiences - and to think and talk about what they're doing - eventually discover their basic, five-element approach to sense-making. They've lived long enough to have experiences they can analyze, are mature enough to examine those experiences introspectively and haven't yet been programmed by schooling to sort what they know into disconnected boxes with subject-matter labels.

Reasoning their way to those five distinct kinds of information, they "own" the foundation of their knowledge-categorizing and -manipulating system. No reading from a textbook, no listening to a lecture, no viewing of a video production, will ever match the level of understanding of ideas that emerge from firsthand experience refined by dialogue.

The Challenge of Change

Making deliberate use of our usual system for organizing knowledge doesn't discard academic disciplines or the school subjects based on them. It elevates and enhances them; puts them in context; and makes them mutually supportive, systemically integrated parts of each learner's seamless "model of reality" - the mental template laid down on particular experience to generate questions leading to the making of sense.

Ironically, it's probable that use of the system would perpetuate the curse of standardized testing. When kids know how their mental "filing systems" work, and make use of them to retrieve trivia from memory, scores will go up. But the long-term positives of using familiar school subjects and procedures to smooth the change process cancel the negatives, primarily by allowing the process to be evolutionary rather than revolutionary.

Eventually, as making more sense of experience replaces the ubiquitous "preparing for college and career" as the working aim of schooling, broader change will follow. Coming (as it should) "bottom up," from teachers and learners focused on improving sense-making rather than on raising test scores, the direction of change will always be appropriate.

There will be surprises, but they'll be pleasant. A major one will be the discovery that kids are far smarter than they're given credit for being. Another will be that adequately feeding the left, order-seeking side of the brain takes much less time than is currently being devoted to it. A third

related surprise will be that the time thus released will make possible a world of useful educational activities - projects, apprenticeships, advanced studies, and so on. A fourth will be that a much better education can be had for considerably less money.

To begin to make use of our natural system for making sense, a little handholding should help. A rough, first-generation tool for that purpose titled *Connections: Investigating Reality* (think of it as a beta version) can be downloaded from the Internet: (http://www.marionbrady.com/Connections-InvestigatingReality-ACourseofStudy.asp.) In the spirit of "open source," and acknowledging a deep-seated American aversion to spending public money on educating, it's free to individual educators for use with students.

Connections requires no special training, no additional materials and no new technology. It does, however, require teachers or mentors who are willing to play a non-traditional role. Present textbooks and teacher talk offer learners secondhand, supposedly expert knowledge about reality. *Connections* directs attention to reality itself in all its inherent complexity, and poses questions or problems. Particular realities may be as mundane as the arrangement of furniture in a classroom, a familiar television commercial, a popular children's book, an obscure folk song. The young - less programmed by life experience - may see in them what the teacher does not. Sufficient humility to accept that fact and encourage its demonstration is appropriate.

Connections makes provision for user dialogue. If advantage is taken of the tool, the differing perspectives and collective wisdom of teachers and learners will allow the general education curriculum to continuously adapt to the needs and trends of the era.

On the Other Hand

When the CEOs and the politicians they've bought finish the simplistic "reform" they've started, when the claim that an order-of-magnitude improvement in learner intellectual performance has been dismissed as hyperbole, when all 50 states have been pressured to adopt the regressive Common Core Standards locking the knowledge-fragmenting 1893 curriculum in permanent place, when standardized subject-matter tests that can't measure the qualities and quality of thought have been nationalized, when the Standards and Testing Police are fully deployed and looking over every teacher's shoulder, it'll all be over. America and the nations that follow its lead in education will face a dynamic world equipped with a static curriculum.

Catastrophe will be inevitable.

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