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STRANGERS IN A STRANGE LAND: SOME THOUGHTS ON THE KNOWING, LEARNING AND EDUCATION FOR THE GLOBAL KNOWLEDGE SOCIETY

> *Every few hundred years in Western history there occurs a sharp transformation. Within a few short decades, society—its world view, its basic values, political structure, its arts, its key institutions—rearranges itself. Fifty years later there is a new world. … We are currently living through such a transformation.*
>
> Peter F. Drucker. [1]

INTRODUCTION: THE CALL FOR INNOVATION

I receive a steady stream of advertisements for conferences, web seminars, training courses, books, magazines, listserves, and professional organizations touting innovations in education—higher education in particular. These announcements suggest that there is no shortage of calls for innovation—even revolution [2] in higher education and throughout the entire education community. In a nutshell the story in these ads goes, "America/ Europe/the world has entered the 'global/ information/knowledge society' and institutions of higher education need to respond so as to be effective, keep our society competitive in a global marketplace and respond to the needs of a changing world."

While this talk of innovation within some of the oldest continuously operating institutions we have (the universities) is heartening, all too often changes proposed fall well short of revolution and, more seriously, remain firmly within the Industrial Age world-view that created them. Much of the discussion urges academics to take a leaf out of the business community's playbook using total quality management, measurable goals and objectives, standardization, scalability and gearing curriculum more directly to the job market [3]. Most proposals for change

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– whether high level government task forces or small college strategic plans – share certain core philosophical assumptions and reflect limited ways of thinking, priorities and values that still heavily favor the range of capacities that were developed in the 19th and 20th centuries to provide workers, professionals and administrators for the Industrial Age. With curriculum emphasis on science and engineering, critical thinking, quantification, literacy in the mother tongue, certainty, rationality, reductionism, abstraction, predictability, linear cause-and-effect and, above all, secularism from pre-school to graduate school, Western cultures have been stunningly successful. The workers, managers and experts that have emerged from this system have been the chief architects of 20th century economic prosperity and social progress. And to the degree to which much of the world is still or not even yet industrialized, these skills and the mental capacities they require are still very much in demand and will likely continue to be so. But hidden in plain sight is another looming issue that forces us to reconsider these well worn cultural assumptions.

1. CULTURAL MISMATCH THEN AND NOW

In the early days of the European colonization of North America, several colleges were established to educate native youth—among them Harvard, Dartmouth and William and Mary [4]. Indigenous leaders, however, were less than enthusiastic about such schools, often responding to invitations to have their children enrolled by sending the children of their enemies instead. A report from the College of William and Mary in the year 1744, said the chiefs declined the invitation because in the opinion of tribal leaders boys who had previously been educated in the white man's schools had returned to the tribe "ruined" and good for nothing. Although taught to read, write and calculate, they had not learned the culturally important knowledge such as how to hunt or skin a deer, had no leadership skills, and knew almost nothing of their ancestral ways. In the chiefs' view these products of European education were not real men and were unfit for life in their tribal world.

Fast forward two hundred and fifty years. Things have changed such that if they were set down anywhere in today's developed world, neither colonist nor native chief would know how to go about even the simplest of daily tasks. What is more, according to even [5] moderate futurists, the changes thus far are mild compared with the transformations on and just over the horizon. Much of what is already in the pipeline and discussed regularly in the popular media, poses enormous challenges to human beings—for identity, governance, social coherence, cultural evolution and maybe even planetary survival.

2. CONCEPTUAL EMERGENCY

There are multiple drivers of the accelerating change, many of them now familiar to futurists. To summarize these include:

- rapid economic and cultural globalization,
- a shift from an energy-based industrial economy to a service and knowledge economy,

- the emergence of the "knowledge society",
- dazzling technological innovation as a consequence of the confluence of the GRIN technologies (genomics, robotics, informatics and nanotechnology),
- accelerating urbanization,
- shifting age demographics,
- radical changes in geopolitics—the end of the cold war, disintegration of the old Soviet Union, and the emergence of an enlarged European Union
- environmental pressures including climate change.

Add to this list a shift from a faith that science would deliver certainty, predictability and increased control to a dawning recognition even among lay people that what we know of as "reality" is characterized by Quantum uncertainty, non-linear complexity [6], and socially constructed conceptual practices [5], and taken together these changes amount to a seismic event in the bedrock sense of reality that has held industrial societies together for almost three hundred years and pose a challenge to the structure of consciousness that goes to deep levels of the psyche, social identity and the sense of self. Though there are those winners who thrive in the new make-it-up-as-you-go society there are also many losers [7]. There is mounting evidence that even member of modern society feel estranged and alienated and, like strangers in a strange land, are struggling to cope with the bewildering complexities of daily life [8, 9, 10]. To be anchored neither by place, worldview nor culture is destabilizing for individuals and societies. This is driving up levels of anxiety and resulting in cognitive dissonance on a cultural scale creating what elsewhere colleagues and I have referred to as a "conceptual emergency" [11]. It seems that the diverse and often mind-boggling contexts of life in the global knowledge society can neither be readily negotiated or understood with the mental maps that successfully framed thinking for the Industrial Age. The implications of this for our collective future are profound and as deep as those encountered in the shift from agrarian to industrial societies, but they have not yet made it on to the educational agenda in any coherent way.

Psychologists have long known that conceptual emergencies cause interference with mental performance. When contradictory clues are presented to us mental fluency slows down, and performance declines as our brains have to work harder to process the ambiguity [12]. Magnify that by multiple contradictions and conundrums and it is a reasonable assumption that the resulting press may lead to difficulties in learning, lack of creativity and a decline in the very capabilities needed for personal and societal success in the knowledge society.

Different cultures produce not only differences in the externals of life – patterns of behavior and social norms – but differences in individual psychology such as self-structure, perception, motivation, reasoning and emotional valence [13, 14] and the fit between inner life and social life. If we take seriously observations such as those of Drucker, [14, 1] Peat [16] and others that humanity is at a cultural inflection point and is in the process of creating a new world culture for itself radically different from those within which any of us were raised, it follows that our discussion of the future of education must go much deeper than it has so far. If I am cor-

rect that there is a widening mismatch between the experiential environment we have created and now must inhabit and the minds that are the products of our collective socializing systems, especially our processes of education, then the need for reform goes beyond changes in curriculum content, technological infrastructure, business models and governance—*it goes to the need to create learning contexts that will result in new kinds of mind altogether.*

Educational leadership does not seem to have realized the radical nature of the current historical challenge. When calling for responses to the emerging educational needs of the global "knowledge society," most assume, that the future "will be just a better or worse version of the industrial society we have today" [17]. They are most certainly underestimating the scope of the transformational changes underway. As we move into the 21st century forces are at work sweeping away many of the deep structures, arrangements and concepts of reality that framed modernity, provided it with its root metaphors and worldview, along with our sense of certainty. At the mundane (and since September 11th, 2003, increasingly terrorizing) level of human interactions on a mind-bogglingly diverse planet we can no longer escape the fact that the framing logic of secular Western rationalism promulgated through our schools is but one among many ways of understanding the world. It seems reasonable to think that what is considered to be the basic knowledge canon, in terms of desirable modes of reasoning, sense of identity, and even of "reality", may be fast becoming obsolete and inadequate to deal with the everyday challenges of life in the globally interconnected society [18, 3, 19].

As yet there has been little penetration into the discussions on the future of higher education of the kinds of deep transformations in the structure of consciousness or "habits of mind" [20], ways of thinking or levels of psychological development [8] that are needed. In my view it is urgent that educators take it up. Now is not the time to abdicate or delegate their historical fiduciary roles as guardians of learning and knowledge-creation to business, political or religious interests —though they must obviously partner with them as always. Unless the education community from government to classroom (in person or online) is willing to radically rethink its deep purpose and embrace emerging new realities, we will find ourselves in a mismatch between the knowledge and skills being offered by today's schools and the world their graduates will inhabit that is even wider than that offered the Onondaga in 1744 by the College of William and Mary.

3. CHANGE AT THE CULTURAL LEVEL

To speak of the need to consciously facilitate cultural evolution runs the risk of hubris but I believe education must do precisely that, and now on a global scale. It is an immense project, but we can take heart from the example of the Scottish Enlightenment [21], when thinkers such as David Hume, Francis Hutscheson and Adam Smith understood the cultural inflection point of their times. In response to their historical moment, Scotland, which at the time was the poorest country in Europe, became the first in the world to provide an education free to all children

that emphasized critical epistemology, scientific method, quantification and new attitudes about science and religion. Within a scant fifty years the Scottish scientists and engineers were among the best in world, and Glasgow and Edinburgh were transformed into global trade centers. As the Scottish Diaspora proceeded the Scots took their educational methods and philosophies with them and gradually their Enlightenment thinking spread out to influence the rest of the world.

That the emerging new 21st century culture will bring about a change in our consciousness is not in question though these changes are as likely to be driven by developments in Bangalore, Helsinki or Shanghai as in Glasgow or San Jose. The questions remaining then are whether the transformation underway will continue to proceed according to logic of the marketplace, haphazardly without thought or guidance, whether the direction will be evolutionary or reactionary, and whether professional educators can provide some form of conscious "guardianship" for the future of the human psyche.

4. EDUCATIONAL PROGRAM FOR THE EMERGING GLOBAL CULTURE

As psychological anthropologists Shweder and Bourne [13] have reported, cohesive and stable societies share a common story developed and transmitted through the various socializing institutions such as parents, education, religion and the arts that provide the conceptual frames, behavioral rules and attitudinal norms that give the necessary balance of order and freedom for satisfactory life in that society. Until now these stories have been diverse and local, and have often built consensus about such issues as identity, community pride and purpose by drawing sharp delineations and antagonisms between "our people" and "others." This does not work anymore—either for communities, whose boundaries and self-definitions no longer hold even for themselves, or for the world. At this point in our collective human history, if we are to succeed as a species in creating a sense of a global "we", that "we" needs a shared global story that is recognized be people in vastly diverse settings, and that speaks to their existential circumstances, aspirations and anxieties.

Any discussion of an educational program for a global culture is bound and ought to raise questions of legitimacy, power, priorities, resources, local sensibilities, past and present abuses, and resistance to perceived and real colonization of the minds of the young by various foreign, commercial or oppressive interests. In my own view as a humanistic feminist whose access to higher education came in the form of an external degree program courtesy of the socialist policies of postwar Britain, the issue of who decides what people should and are permitted to learn, and who decides who decides, must be front and center of any discussion. To have legitimacy and wholeness that discussion must include as many voices as possible. The more we can encourage a free flow of ideas among stakeholders—which in the case of consciousness includes everyone to some degree— the more possible it is that as a new global story emerges it will reflect and incorporate the wisdom, knowledge and ideas that historically have been ignored, marginalized, de-legitimated or simply not recognized as

knowledge. Such contributes to our collective vision will increase the likelihood that the story might be universally acknowledged as the voice of a common humanity.

In the past a call for a "global conversation" might invoke images of top-down commissions populated only by the voices of the global elites. But the rapid spread of Information Communications Technology (ICT) and the Internet offer humanity something it has never had before—an open, horizontally distributed, interconnected hyperlinked global agora, within which matters of human concern can be discussed, debated, negotiated and about which shared understandings can be found.

It is with full recognition that what follows represents a view which like any other is situated. I add these thoughts to the conversation from the perspective of a former graduate school CEO, a career-long teacher of science and psychology to students whose age ranged from adolescents to octogenarians, and in contexts as diverse as elite liberal arts college, British colleges of technology, a Brazilian psychiatric hospital, a San Diego growth center and a large mid-western agricultural university.

5. FOUR INTERCONNECTED DIMENSIONS OF A LEARNING AGENDA FOR THE GLOBAL 21ST CENTURY

5. 1. MISSION

At the present time much of the discussion about the core mission of higher education seems to be dominated by the language of business and economics. Educators should not be shy about making explicit to the pubic that one of the important roles of education is to cultivate people—individuals and collectives—with the necessary scope of imagination, critical self awareness and level of psychological maturity or wisdom required to create sustainable systems in which human beings thrive, can co-exist peaceably and be fulfilled on a fragile planet. In the 21st century we need individuals and human systems who can understand their world in deeper and more complex ways and move beyond the modes of thought cultivated by the Western canon. We must help the average citizen achieve more reflexive orders of consciousness. If as Kelly says, we "stand ready to reap the catastrophic harvest" of our insatiable desire to consume and "prosper" [22], unless we evolve our ways of thinking to embrace a wider sense of responsibility, not only for self, family, tribe and nation, but for entire planet, nature may well abandon its experiment with *homo sapiens sapiens*. From preschool to life-long learning, the mission of education must include an explicit goal of cultivating learning on a cultural level and of facilitating evolution in the modal level of human consciousness. From my reading of history, anything less runs the risk of cultural meltdown.

5. 2. NEW CURRICULUM CONTENT

5. 2. 1. A GLOBAL CORE

The development of a global core curriculum means more than simply the usual approaches to learning about "other societies." It will require creating ways to dissolve the boundaries between "them" and "us". As long as people beyond one's

own national borders are considered *other*, and so subject to our projections and stereotypes, vital perspectives on each others human possibilities will be hidden from view and misunderstandings and even fatal conflicts are inevitable. As difficult and destabilizing as this might be, global citizens must enlarge who they think of as "*we*." At a minimum this means learning to put local knowledge into larger perspectives and bringing a global and multi-perspective approach to local knowledge. Education will now have to do a far better job in nurturing the sense of a common humanity, with a shared destiny and shared vulnerability. Every society large and small has a stake in arriving at a small set of core competencies, skills and attitudes ideas that will provide every child the cognitive and emotional entry requirements to the global culture and every adult with a common conceptual language and sense of shared responsibility for the future.

5. 2. 2. "WIKIFICATION" OF CURRICULUM CONTENT

It is obvious that science, engineering, health and emerging technologies curricula will remain crucial to human wellbeing. The current rate of technological invention is likely to continue or accelerate. Even in the unlikely event people say "no" to galloping technological innovation we still need to ensure that people acquire the advanced levels of expert knowledge needed to innovate, to develop and maintain our tools and toys, to sustain and hopefully improve the quality of life and preserve the environment. Mastery of some body of core concepts will still be required, but given the ephemeral nature of knowledge, even science and technology curriculum content will have to become more open source and process focused— Instead of textbooks updated every few years content will have to become "wikified"—digitally stored and updated constantly in response to feedback from a changing world.

5. 2. 3. NEW LITERACIES

New literacies now need to be added to the existing canon. Eco-literacy, information literacy, visual literacy, cultural literacy, psychological literacy and spiritual literacy, and epistemological fluency become core capacities of the educated person in the new context. The digital natives will use technology in ways we cannot even imagine. Given the inevitability of the "law of unintended consequences" a key literacy must be the routine consideration of multiple possible futures. Future consciousness becomes a necessary part of everyday thinking not just of futurists but of everyone who must make decisions—in other words most of us. Futures studies, foresight, planning and forecasting methodologies become every bit as important as history. Awareness of and sense of responsibility for short-term, medium-term and long-term future horizons need to be a core element of everyone's education.

5. 2. 4. LEARNING TO BE

In a world where not just leaders and executives but people at all levels of life will need to exercise independent judgment about things that matter, who one is

becomes as important as what one knows. Psychological and moral development of the learners themselves will need to find their way into the curriculum. Keeping ones bearings in the dizzying world of contradiction and complexity is not easy. Millions now realize that some degree of "inner work" that leads to psychological maturity must be part of their learning and growth. Personal development such as critical and appreciative self-reflection, emotional growth techniques, the arts, creativity, meditation, contemplation, yoga and psychotherapy will all be important elements in learning.

5. 3. NEW PEDAGOGIES

5. 3. 1. FROM KNOWLEDGE TO LEARNING

Not only what we learn but *how* we learn will need to change. To possess only specialized knowledge in a rapidly changing environment will result in rapid marginalization unless it comes with new ways of thinking about expertise. As rapid information turnover and obsolescence becomes the natural order of things, forgetting (discarding) will become as important as remembering, and programs that help people change fields will become an important element in educational processes. Learning to learn becomes a core competence.

Pedagogy will have to shift from its current primary focus on the mastery of content to primarily a focus process —from a focus on "knowledge" the noun, to a focus on "learning" the verb. Subject expertise will still be needed, but the transitory nature of information and the speed with which we must act means that learning how to harvest information from multiple sources "just-in-time" will become more important than accumulating a body of knowledge. Since brain capacity within the skull of any one individual is limited, while at the same time storage capacities of external information systems is likely soon to be virtually unlimited, loading up neuronal capacity with too much fact storage becomes unnecessary and actually disadvantageous; limiting the mental capacities available for processing and manipulating information. Though the right mix and balance between expert knowledge and process capabilities are yet to be determined and will be different from field to field increasingly, discernment, critical and appreciative appraisal of knowledge becomes more important than remembering facts.

5. 3. 2. OPEN ENDED OUTCOMES

Following from this, the aims of any pedagogy must focus less on fixed and predetermined outcomes, and more on open ended emergent outcomes. As Brown [23] insists, in the cyber-age now upon us, thinking becomes less linear and deductive favoring bricolage that pieces together and makes judgments about information from multiple sources. This will necessitate shifts away from over-reliance on authority-based pedagogies to discovery and experienced-based pedagogies that involve multi-tasking, collaboration among multiple players and engagement of the whole person. Key here will be mentor-mediated experiential activities where im-

proved theory can emerge from reflective practice and where new practice generates new theory.

5. 3. 3. ROOM FOR EMOTIONS

There is now ample evidence for the important role emotions play in learning and in our actions. We must use what we already know about this to develop emotion-friendly curriculum that has room for the passions, love, creativity, spirituality and aesthetics in the learning process. One of the most serious (and in my view dangerous) omissions in our educational programs is the almost total absence of attention to the way much of human behavior is driven by emotional responses about which we have no cognitive awareness. Opinion leaders still speak as if all human action is rational and conscious. In a highly interconnected and increasingly volatile world however, people everywhere must become far more aware of how emotions influence how sense is made, how priorities are set, how the world is interpreted and above all how people learn. There is some dawning awareness of the emotional components of learning in a few societies. In Finland, for instance, one of the world's most successful economies, educators have not followed the West's rush to standardization, testing and the introduction of business-think into the educational environment. Instead they have eliminated testing; trust and reward the professionalism of teachers; and make creating an emotionally safe space for risk taking and experimentation part of their educational culture [24]. One wonders that while the OECD report [2] cited above recognizes the importance of emotions for learning, the authors' concluding suggestions for a research agenda for a "new learning science" fail to include the study of emotions, values and attitudes.

5. 3. 4. GROUP DYNAMICS AND HUMAN RELATIONS

Since most projects in the future will require collaboration with others who are different, high levels of social competence become critical. In the Eurocentric West centuries of emphasis on individualism results in cultures where people are far less aware of group behavior and dynamics and how to work well in groups than people from more sociocentric societies such as Asia and indigenous tribal communities. To be effective in most areas of human activity understanding human relationships, group dynamics, leadership and unconscious dimensions of all these becomes a core competence. Interactive pedagogies must be reintroduced into the learning context that are reflexive not only with respect to particular content and individual self-development, but also with regard to the relationship among learners.

5. 3. 5. CASE-BASED AND PROBLEM EMBRACING

Given that in rapidly changing context, facts and theories in use on the ground in real situations change faster than facts and theories about them in books and journals, and given the fact that many of the problems with which we now must deal may have never been encountered before, education must become inquiry fo-

cused, problem-embracing and case-based, with knowledge and learning derived from attempts to solve real problems. Learning complex skills is largely a process of enculturation. As domain specific expertise becomes ever more specialized we will need to create opportunities where learners can fold together "learning in situ and cognitive apprenticeships" [25] where learners can acquire the tacit dimensions of emerging fields through working with mentors on real projects.

5. 4. NEW MODES OF INQUIRY

5. 4. 1. EXPANDING CONCEPTS OF SCIENCE AND KNOWLEDGE

Much of what human beings will be preoccupied with in the coming decades are problems and dilemmas or "messes" for which there are no easy answers. The context of uncertainty and complexity means that we must wean ourselves from our overdependence on positivist science, reductionism and linear thinking as the only acceptable and practical forms of knowledge. Development in the philosophy of science, biological sciences and the new physical sciences suggest a world that is fundamentally uncertain. Our concepts of what constitute serious legitimate inquiry must now diversify beyond the paradigms that dominated scientific thought in the 20th century. To gain meaningful knowledge in the new contexts our modes of inquiry must be expanded to include the more nuanced human science methodologies such as phenomenology, hermeneutics, appreciative inquiry, action learning, contemplation, scenaric inquiry, ethnography, reflective practice, narrative analysis, journalism, symbology, critical inquiry, discernment and meditation among others. Systems inquiry and the kinds of holistic thinking it requires will become more important and if to become automatic must be introduced to children early in their development. The need for this is not so that we can control large systems—which for the most part are already too complex and messy to be controlled, but, as environmentalist Donella Meadows puts it, so we can learn to "dance with them"[26]. By this she means establishing better levels of attunement to flows and processes such that our interventions into complex systems may be more nuanced and graceful and not cause the kind of unwanted perturbations like the current U. S. intervention in Iraq, which becomes more intractable as the intervention proceeds.

5. 4. 2. INTUITION, PATTERN RECOGNITION AND RELATIONAL COGNITION

If the mass of information available everywhere is to reveal coherent new knowledge adding substance to our collective wisdom and not just noise, it will be important that people learn new ways to organize, synthesize and make meaning from the information. After several centuries of training ourselves to see separate objects and bright line linearities, we need to reintroduce into our Western education new emphasis on relational and holistic thought, pattern recognition, learning how to

distinguish the significant from the banal, and how to navigate the exploding world of "open source" information—websites, databases, blogs, etc.

5. 4. 3. TRANSDISCIPLINARITY AND INTEGRATION

In the last decades or so, there has been considerable movement towards new areas of integrative knowledge generation which bring together previously separate disciplines. Environmental sciences, cognitive-neurosciences, human services are successful examples. A proposed new field of "learning science", [2] is imagined as occurring at the intersection of neurobiology, cognitive science, education, psychology, public policy and health. New hierarchies, networks and links across knowledge fields are bringing experts together from multiple fields in creative ways where the "edges"—innovative and even heretical ideas can interact. In complex problems research is increasingly conducted in its application, frequently involving teams from many disciplines as well as practitioners and lay people. To successfully integrate the different kinds of knowledge and to create novel approaches to problems will require development of new protocols for such transdisciplinary knowledge production [27, 28, 29].

SOME CONCLUDING THOUGHTS

Over the past decade the convergence of cognitive science and educational research has placed much more emphasis on how people—young and old—actually learn complex knowledge, and has reaffirmed what educational innovators in the 1960 s and '70 s observed, namely that true learning is whole person learning. In his now classic book, *Freedom to Learn* [30], American visionary psychologist Carl Rogers outlined the needed shift from teaching as "telling" to teaching as facilitation of learning. He emphasized the need for teachers at all levels to learn how to create environments for learners that are free *from* judgment, fear of failure, aggressive competition, and stifling of heretical ideas, and where there is freedom *for* discovery, risk taking, engagement, creativity and experimentation. In practice education is always a blend between long-range vision and the urgency of day-to-day necessity [31]. Unfortunately the emphasis on educational reform has been much more about short-term necessities than on long-range vision. I have no doubt that humanity has the capacity to find its way through the transformational times. What I am less confident about is if we will do this while avoiding the potential psychic damage that has accompanied such cultural transitions in the past. In the lives of individuals and groups conceptual emergencies such as the one we face now are pregnant with both the danger of regression to more simplistic frames of thought, and opportunities for growth and reintegration at more inclusive and adaptive levels. In my view if the new story of education remains framed in the language of the Industrial Age, we might miss the opportunity built into the challenge of our times and continue along the failing, self-destructive and ultimately empty path we appear to be on at present.

But there is good news here. While educational leaders, government officials, politicians and business leaders weigh in at the top, wringing their hands about the state of American higher education, all across the education landscape creative educators are already reinventing their profession, and generating a "Cambrian explosion" in innovation [29]. Because of the unique relationships they have with their students and their questions, dilemmas, and aspirations, teachers are part of the early warning system of the wider community. In response to the changing needs they see in the lives of their students, educators at all levels are already adapting to their changing roles, and where they are free and can garner the necessary resources are seizing the immense opportunities in the new educational technologies and at the grass roots level redesigning educational systems that support the new forms of learning. Innovative graduate schools, such as the one I am most familiar with, Saybrook Graduate School in San Francisco, and Fielding Institute in Santa Barbara, have long been sites for the evolution of learner-centered graduate education in which the curriculum and pedagogy fits many of the parameters of the models outlined here. Graduates with their Ph. D. s from these institutions, once considered somewhat marginal and fringe, are increasingly sought after as designers and teachers of distributed transdisciplinary transformative learning environments in more mainstream schools.

At the same time world-class universities such as Stanford and Cornell, with abundant resources, often in collaboration with classroom teachers, and learning executives from the high technology companies whose creative talent have created the ICT boom, are digging into the teaching-learning question to discover what they can about more effective teaching and learning in the new context. As these independent creative initiatives are supported and shared through in-service training for teachers, they may eventually align and coalesce into a new story of education. This may be more likely to happen if such a vision and goal were articulated by leaders like those participating in the various national and international commissions, but in these days of "viral" information dissemination, maybe that will not be necessary. If we can adequately resource and sustain the innovation efforts long enough and share the fruits widely enough, we may be already at the beginning of a paradigm shift in education that could inform the next stage of human consciousness evolution.

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