Annotated bibliography of research on virtual world teaching

[SOURCES AND NOTES]


Importance of step by step building of skills
Necessity of teaching physical and digital rhetoric literacy


“...industry leaders] seem to be blind to the widely publicized data emerging
from scientific studies of the human impact on natural systems” (p. 49).
“... illusions of plenitude and improved material well-being, and the sense that
the only limitation of the present economic system is lack of money or credit to
buy everything and be everything” (p. 52).
“cultural bioconservatism” “thinking of the individual as nested in culture, and
culture as nested in natural systems” (p. 58).
Liberatarianism and Marxism are not able to identify any merit in non-Western
cultural ways of knowing (59).
Anti-tradition stance is a long-standing tradition since the European
Enlightenment thinkers (59).
“The argument here is that environmentally sustainable expressions of local
knowledge share the following characteristics...[transgenerational
communication that respects elder knowledge] and [knowledge of place]” (pp.
60–69). Draws on statement by the elders of the Six Nations of the Iroquois
Confederation, Gregory Cajete’s Look to the Mountain: An Ecology of Indigenous
Education (1994), Charlene Spretnak’s Resurgence of the Real: Body, Nature, and
Place in a Hypermodern World (1997), the Shakers of New England and the
Midwest, Gary Snyder’s The Practice of the Wild (1990), Asaldair MacIntyre’s After
Virtue: A Study in Moral Theory (1984), Wes Jackson’s Altars of Unhewn Stone:
Science and the Earth (1987), Sim Van Der Ryn and Stuart Cowan’s Ecological
Design (1996), Frédérique Apffel-Marglin’s The Spirit of Regeneration: Andean
Culture Confronting Western Notions of Development (1998), Wolfgang Sachs’s
Global Ecology: The New Arena of Political Conflict (1993), and Stephen Marglin’s
“Farmers, Seedmen, and Scientists: Systems of Agriculture and Systems of
Knowledge” (1996).
“The technology that allows a search engine to locate thousands of references to
a particular word or topic, while creating the impression that the collected
knowledge of humankind is instantly accessible anywhere in the world, cannot
reproduce what we most need to know in order to make judgements about the
context that the data and information are extracted from” (71).
All data appearing equally objectively, from hate groups websites to the
Smithsonian Institute (71–2).
Teachers as “a guide on the side” (72).
“What is the morality hidden by the modern myth that data are separate from
values?” (73)
“While computers may increase our ability to engage in instrumental
relationships, they should be understood as contributing to the loss of moral and
spiritual knowledge about how to live sustainably within our environment” (p.
74).
Reference again to Bateson (1972) and “the larger circuit” and how decisions are increasingly made by reference to “experts” who can locate data to further their arguments (p. 74).

Modern expert undermines the essential characteristics of local knowledge (p. 74).

“high-status patterns of thinking learned in the university” (p. 75).

“emphasis on diagnosing problems and framing solutions as models that can be replicated in various cultural contexts, assumption that abstract, theoretical and data-based knowledge is more enlightened, progressive, and effective than knowledge learned and tested over generations of cultural experience within an ecological context” (p. 75).


Politicians still equating prosperity with computers despite media attention to critiques (p. 112)

Theodore Roszak on how computers reinforce Cartesian thinking (p. 113)

“What is missing [with Roszak] is how the Western technological mid-set differs from that of other cultural groups—particularly those that have encoded their knowledge of place, relationships, and life cycles into their mentoring, narratives, and ceremonies” (p. 113).

How computers replace teachers through politics

Quoting Seymour Papert “Never before has a society been so close to freeing children from school walls, grading systems, and overdependence upon adults” (p. 115).

“The press releases and promotional literature [of Western Governors’ University] overlook the traditional purposes associated with higher education: the advancement of knowledge, the exposure to a broad range of cultural traditions that enable active and reflective participation in civic life, the development of personal talents, and so forth” (p. 119).

// yes but these are not really why universities were founded to begin with anyways...

[The questions raised for the academic community by new technologies] reflect the growing moral and conceptual relativism within the academic community
that has resulted in replacing consensus on essential forms of knowledge with concerns about equitable working conditions” (p. 120).

Mandates to put all course content online, unemployed PhD’s creating content and eliminating the need to pay teachers’ salaries, Educom (p. 121).

“One particularly serious consequence is that the new secular trinity of education, computers, and the marketplace exacerbates a double bind: while computers enable near-instantaneous communication between corporate power centers and production facilities in different parts of the world and integrate low-wage countries into the global economy, they further undermine the traditional connections between education and job security” (p. 122).

“The sooner skills and knowledge are made obsolete, the more the educational market expands as part of the retraining process—thus benefitting virtual universities and other educational “providers”” (p. 122).


“...the emphasis on technique, process, and application that characterizes most professional literature on computer-mediated learning traces back to the educational background of professors of education, and further back to their professors. With few exceptions, their education never cultivated an appreciation of differences in cultural ways of knowing, an understanding of metaphorical language and cultural intelligence, or even the cultural mediating characteristics of print-based technologies such as computers. As a result, university “experts” on educational computing, with few exceptions, are unable to see, much less explain, cultural nuances and teachers’ responsibilities for safe-guarding them. Nor can these experts see the cultural assumptions embedded in software programs. Given this lack of understanding, they cannot convey to teachers the connections between the tacit and explicit cultural ways of thinking that contribute to global warming and other environmental degradations” (p. 125).

“We envision a future where teachers and learners embrace and integrate instructional technology and use it to improve the teaching and learning process.... Here are some of the things we see as possible outcomes of this process: multimedia learning resources, available via information networks, will proliferate and become a central feature of education. Teachers will change their role from the “sage on the stage” to the “guide on the side.” Instead of
conveying information, they will help learners make use of the new information tools to find, analyze, and synthesize information; to solve problems; to think creatively; and to construct their own understanding. Education will become a lifelong process, one that is important and accessible to all, and schools will become centers of learning—not just for children but for all members of the community. The boundaries separating schools from each other and from the community will blur or disappear. (Instructional Technology for Teaching and Learning] P. 330) ” (p. 126).
//and thus the entire world will become schoolified, to live under the Inquisition/Technocracy

“In the sections of Instructional Technology for Teaching and Learning that explain the three theories of learning (behaviorism, constructivism, and information processing), there is no reference to differences in cultural ways of knowing, nor to the ways the metaphorical language of computers reproduces the cognitive schemata of the dominant cultural group” (p. 127).

“…few middle-class parents and teachers recognize the double binds created by these assumptions and values—particularly how they contribute to ecologically degenerative economic and technological practices. Few parents and teachers will recognize the historical linkages between their highest values (including their own view of personal success) and the Industrial Revolution, with all its ecological implications. For most of us, those connections—between a 7,000-square-mile “dead zone” of oxygenless water that stretches from the mouth of the Mississippi River each summer and our modern view of individualism; between ponds in New England that have not frozen for twenty years due to global warming and our cyber version of creativity; between the chemically saturated, eroded topsoil of the Midwest and our deadly ecological anthropocentrism; between declines in our reproductive capacity and our addiction to consumerism—these connections are difficult to see. Abetting us in our willful blindness are the educational software programs developed by an intellectual elite who continue to promote the deep cultural assumptions that have led to turning Nature and human relationships into commodities” (p. 127-8).

Games analyzed for cultural assumptions include Storybook Weaver (1993) (pp. 128 – 131), DynoPark Tycoon (1994) (pp. 131-132), The Oregon Trail II (1993) (pp. 132-136), Sim series (pp. 136-7).

“…three questions stand out from a long list: (1) How do we educate teachers and educational software programmers to become more conscious of the cultural
assumptions and values reinforced in computer-mediated educational experiences? (2) Can the software be designed to clarify how certain cultural assumptions and values undermine the convivial and morally reciprocal patterns that characterize more self-reliant communities? (3) What do students need to understand about the cultural non-neutrality of technology and the difference between imperialistic, environmentally destructive technologies versus those that support local knowledge of environmental possibilities and limits? The following chapters will suggest partial answers to these questions and frame the dialogue that must begin” (p. 139).


“[…]The assumption equates the development of new technologies (particularly computer-based technologies) with progress. To put this another way, they are addicted to technological innovation in the same way that people become addicted to drugs—and the destructive consequences of this addiction are little understood. Like a drug habit, technological addiction provides an experience of short-lived euphoria, followed by the need to acquire a more powerful fix as soon as possible. In computer-based technologies, the cycle of product innovation and obsolescence is becoming shorter and shorter, which fosters the continual obsession to own the latest innovation. Both addictions lead to the redirecting of economic resources to feed the habit while undermining activities essential to the well-being of individuals and communities. This compulsive behavior is also prevalent in our nation’s educational institutions” (p. 177).

“This increased dependence on technology represents a highly experimental orientation toward the future” (p. 177).

“The public understanding is thus shaped by the way scientists, engineers, and the business community perceive the uses and benefits of technology—which is like having the public understanding of drugs shaped by the addicts themselves” (p. 178).

“Ironically, it is the liberal view of the individual that contributes, in part, to maintaining this aspect of this cultural myth, which is such a central feature of
public schools and universities. If it were understood that a technology such as the phonetic alphabet amplified a certain form of consciousness and patterns of social relations, it would be hard to maintain the idea that individuals are autonomous agents. In effect, the myth of the autonomous, self-directing individual requires the myth that represents technology as neutral” (p. 178).

“... natural systems are being changed to the point where there is less margin for human error” (p. 179).

“We now need to take a radically different approach to technology. An in-depth assessment by the public should occur before experts introduce the technology rather than after it has been integrated into an interlocking system that the public becomes dependent on” (p. 180).

On transgenics, cloning, patenting, scientists’s fear of public regulation (181-182)

“Given the reduced ecological margin for human error, the general public must replace the current assumption that equates technological innovation with progress with an assumption that any new form of technology may bring unintended ecological and cultural problems. Instead of blind optimism toward technological change, we need to take a more cautious, even skeptical view” (p. 182).

“Unfortunately, few public school teachers or university professors have given serious thought to the cultural mediating characteristics of technology, and even fewer have studied them systematically. The double bind can be simply stated: the one place in society where it might be possible to learn about the cultural nature of technology, other than how to promote its further development, is unable to challenge the myth that equates technological development with social progress. Indeed, public schools and universities are the chief promoters of the myth” (p. 183).

“Education and Technology: A Brief Overview”

Roots of double bind: “The thread of continuity that connects the myopia of the present with the deep cultural assumptions of the past can be found in the distinction the ancient Greeks made between techne and knowledge of the forms or ideas that were free of practical and embodied expression. What the ancient Greeks understood as techne, which we now call technology, as seen as a lower order of human activity—thus less important than philosophy (abstract theory) and an inappropriate concern of the educated person. The bias against the
serious study of technology has been further sustained by the early Western mind-body dualism, and the history of social class distinctions that encoded the hierarchy articulated by the ancient Greeks and that is still perpetuated by institutions of higher learning.

“While Western cultural development depended on a wide range of technologies, the early universities quickly shed their focus on passing on the technical and procedural knowledge that was the basis of law, medicine, and theology. As universities became centers of liberal studies, the acquisition of technological knowledge became the responsibility of the low-status institutes of technology—and, until recently, what were known as junior colleges. Modern universities now increasingly promote areas of study that lead to the development of new technologies—an outgrowth of science as a central focus of schools of business and education, departments of psychology, and so forth.

“Thus, the bias inherited from the ancient Greeks has continued to be a dominant characteristic of all levels of formal education—but now there is an important difference. While the direct study of the moral and cultural mediating characteristics of technology continues to be viewed as unworthy of inclusion in a liberal education, the promotion of research leading to the development of new technologies has become the primary focus of most professors and university administrators.

“Given the complicity of public schools and universities in promoting the myth that new technologies will provide solutions to the increasingly complex and daunting problems faced by the world’s cultures, the suggestion that they provide the best hope for democratizing decisions about technology development and use is likely to appear as naîve. In The Culture of Denial (Bowers, 1997) I argued that universities, and by extension public schools, are unlikely to examine at a deep cultural level how they contribute to the globalization of the technological form of culture that is now commodifying and genetically redesigning the most basic levels of the natural world. As the various groups that make up the environmental movement document the dangers connected with the present economic and technological course we are on, and clarify the connections between the high-status forms of knowledge and the ecological crisis, the critical attitude fostered in universities must shift toward an examination of technology itself. The feminist movement has demonstrated that professors and university administrators, while unable to recognize on their own how patriarchy influenced curriculum development, hiring practices, reward systems, and even patterns of discourse in the classroom, were nevertheless capable of changing previously taken-for-granted patterns of thinking. It was a surprisingly slow process for an institution that prides itself on its superior powers of critical reflection, but it still represents a capacity for
change. However, because of the rapid changes occurring in natural systems, there is likely to be less time to make the necessary adjustment in what students are taught about technology. We certainly cannot wait the centuries that it took professors to become aware of the mythic foundations of patriarchy” (pp. 183-185).

“All citizens should understand the following aspects of technology and thus study them as a required part of university education:
1. There are differences between technologies developed in Western cultures and traditional, more ecologically centered cultures. […]
2. Democratizing decisions about technology depends on understanding alternative assumptions that influence the dominant approaches to technology. […]
3. We need a systematic examination of how modern technology contributes to the culturally transforming process of commodifying knowledge and relationships. […]
4. Modern technology requires a more complex view of tradition. […]
5. Technology has an impact on language and patterns of thinking. […]
6. Social justice issues arise from the influence of modern technology on the nature of work. […]
7. It is important to acquire knowledge about how the cultural mediating characteristics of computers threaten cultural diversity and ecological sustainability. […]”
(pp. 186-191).


As co-founder of The Planetary Society with Carl Sagan and Bruce Murray, Louis Friedman would certainly be considered a valid authority on the subject of multi planetary colonization by humans. The article takes the form of a dramatized exploration of a future multi-species human kind, focusing on two primary figures: Dr. Angela Okonjo, the “highest ranking human resident on Mars” (p. 136) and Carlos Gupta, an explorer of Europa who utilizes virtual worlds technology to do his job as a “stay-at-home explorer of other worlds” (p. 135). To my mind this is an alarmingly accurate view of what teaching (living, working) in virtual worlds is likely to shape up to. Where Friedman and so many others see nothing but rosy benefits of virtual worlds and their enabling function to space exploration and colonization to provide “an infinite vista for growth and development” (p. 135), I find myself driven further to skepticism and terror or the ignorance promoted in such narratives and real life deployments of technological advancement.

Friedman’s use of Dr. Okonjo as a rhetorical tool is telling. He uses Dr. Okonjo (an African / Nigerian name) to draw a direct and uncritical comparison to Columbus’s (genocidal) invasion of Quisqueya / Haiti / “Hispaniola” and the America’s, which he euphemistically calls the “first landing on a small Western Hemisphere island” and “the beginning of a first European settlement in North America,” with the hopes and dreams and predicted future reality of further exploration and settlement (colonial invasion) into the cosmos. The colonial violence of Columbus’s “landing” is invisibilized while at the same time its
continuity into the cosmos is rendered immune to charges of racism or colonialism because the first Black president of the U.S.A. promoted that expansion in the 2010 speech Friedman references (p. 135) and the overall speech about the great accomplishments of Martian colonization is being given by the highest ranking member who is also of African descent. Then, Carlos Gupta the virtual worlds explorer with apparently Indian and Latina/o ancestry, is used as a device to instruct the reader on the wonders of virtual worlds as tools of space exploration.

The main problem with all of this in my mind is it is another repeat of Manifest Destiny, infinite room for growth and development in space, without any attention to critique the very same technologies that are at the cause of most of the planetary crises that Friedman claims to be escaping. Just as the empires of the “old world” failed to resolve their problems at home through self-critique and readjusting their intra-societal economic and social relations and their modes of relating to the earth, Friedman represents very succinctly with this article the same lack of will to confront those issues as Empire Earth and erroneously images that solutions are to be found in space. I am inspired by this article to create a virtual world learning environment that contains the very future that Friedman describes along with some key additions. Perhaps a roleplay scenario where some students could have the prestigious jobs of Dr. Okonjo and Carlos Gupta while others are forced to live unemployed, in prison, and/or working in the mines and low wage service industries and factories that enable those same high-status positions. Perhaps it could also be possible to create virtual world representations of what it is like to experience the colonization Friedman writes about from the perspective of the planetary bodies and elements themselves. Also see Alabama Shakes - Sound & Color.

“Humankind must make it to Mars to overcome the physical and psychological limit of being confined to our fragile singular planet” (p. 136).

“She reflected, “In a time period shorter than between Columbus’s first landing on a small Western Hemisphere island to the beginning of the first European settlement in North America 111 years later, we had moved from the first human landing on another world to the beginning of a new-world settlement. May our vision for Mars be even more bright and far-reaching than for America four centuries ago” (p. 135).

“The data comes from the six submarines now roaming the Europan ocean, plus three more on Europa’s icy surface, serving as both backup vehicles to the explorers below and as surface observation and communication outposts.
Included are optical images, visible, infrared, and ultraviolet; sound at a range of frequencies spanning several times the human range; mass spectrometer and chemical data providing the equivalent of olfactory and taste data; and even tactile data from the many appendages and external sensors on the submersibles” (p. 135).

“At the same time we reach to the stars we will be settling on Mars, providing an infinite vista for growth and development. Occupying another world also addresses real or imagined existential threats to our home planet. Our species could thus survive even an asteroid impact, pandemic, climate catastrophe, or nuclear war. We will be settlers on Mars and explorers of worlds beyond, feeling our human presence throughout and beyond our solar system” (p. 135).

Alabama Shakes - Sound & Color (Official Video)
https://www.youtube.com/watch?v=faG8RiaANek


McCaw, Caroline. (January 01, 2008). Art and (Second) Life: Over the hills and far away?. *Fibreculture Journal, 11.*


Pullen has provided an extensive analysis of Skawennati’s *Timetraveller™* and its use as a decolonial activity. As a PhD candidate in Communications Studies at Concordia University in Quebec, Canada—the University which houses Aboriginal Territories in Cyberspace (AbTeC) and AbTeC Island—she is well attuned to the series and thus qualified to speak on the subject. In the article Pullen introduces us to machinima, or making films in virtual worlds, and shows the various ways that Skawennati’s Skawennati’s *Timetraveller™* does decolonial work by drawing on the works of various decolonial theorists, personal communications with Skawennati, and her own analysis. Some key authors Pullen draws on in this interpretive work include: Frantz Fanon, Stuart Hall, Walter Mignolo, Homi Bhabha, Aníbal Quijano, Edward Said, and Donna Haraway among others. After pointing out the declining sociability in online environments referred to by Skawennati and that AbTeC Island has to be closed off during filming, Pullen ends with the following question “Will these virtual territories become overcrowded and hostile, or will artists like Skawennati be able to reconcile with this amorphous never-ending space and continue to explore the potential of the medium with an ever-expanding virtual public, in new and exciting ways?” (p. 248). That seems an important caution to note when attempting to design virtual world learning/teaching scenarios in general, but especially for decolonial purposes where apparently cyberspace is not necessarily any safer than the physical realm. On a more positive tip though, there are at least two major innovations that can be applied from the example of *Timetraveller™* to other virtual world teaching contexts. The first is to have virtual world learning community participants (not necessarily students) collaborate on making their own machinima as a project. The other is the value of identity exploration, pluriversality and pluralistic identity and the
imaginative and psychology advantages that has to offer many individuals, Indigenous and otherwise.

Skawennati is the sole author of the story itself. She presents narrative aspects of her identity through a multiplicity of characters. Why Second Life as a mode of storytelling? For Skawennati, the path towards TimeTraveller™ was not entirely linear. It borrows from past projects and research that have evolved with technological capacities available to new media practitioners. (238)

In a sense, this mode of narrative storytelling delinks from colonial pasts. The process of delinking is articulated in Stuart Hall’s (1997) assertion that the past is not reclaimed literally but through the imagination—perhaps through Skawennati’s reimagining of Indigenous histories. (238)

By asserting her own voice and narrative first, Skawennati points to the appeal and importance of her work in a public sphere that consistently denies Indigenous multiplicity and identity. (239)

The initial formulation of decolonial delinking was by Alíbal Quijano in his article “Colonialidad y modernidad/racionalidad” (1991). Quijano proposed, in light of a surging interest in postcolonial theory and the criticism of Western historical bias, that we must analyze and criticize the limits of the hegemonic structures of a Eurocentric worldview. Delinking is asserted as a mode of “epistemic disobedience” that can be employed as a tool to remove oneself from the linkages between rationality/modernity and
coloniality (Quijano, 1991). In order to step outside of a colonially imposed narrative of rational superiority synonymous with Western modernity, the process of delinking subverts the constant search for “newness” in favor of a rethinking of temporal hierarchies—in other words, according to Walter Mignolo (2011), “the spatial paradigmatic breaks of epistemic disobedience” (p. 45), such as through the retelling and reimagining of Indigenous histories in *TimeTraveller™*. (239)

pluriversality (239)

How does this method evolve and transition through new media practice? Perhaps the online world and the virtualized body can act as an entry point to breaking down colonial modernity and to decolonizing historical and contemporary identities and discourses. According to Edward Said, new media technologies are imperative to the construction of identities in formerly colonized regions since colonized peoples are able to learn about themselves through these forms of knowledge (as cited in Fernández, 1999, p. 12). Thus Skawennati’s narrative played out in online virtual reality acts as a decolonizing gesture for the artist’s own identity and other Indigenous identities that have been silenced by the discourse of modernity. (239)

Skawennati removes her story from a Westernizing framework through her leading character’s perspective as an act of epistemic disobedience, extricating her positionality from the imposed linkages between rationality/modernity and coloniality addressed by Quijano. (240)

decoloniality of multiple identities / avatars (240)
lack of indigenous avatars in SL (240)
knowledge sharing activism (240)

In proposing Western historical frameworks
(e.g., the classifications of periods such
as “Antiquity”, the “Middle Ages” and the
“European Renaissance”) as the dominant
framework for studying and telling histories,
colonization takes hold of not only land but
also temporal spaces. This process confuses
the greater narrative of global histories with
the imposed Eurocentric narratives of Western
civilization’s singular/linear global history. (243)

Rauch, Ulrich, Cohodas, Marvin, & Wang, Tim. (2009). The Arts 3D VLE Metaverse as a
Network of Imagination. Innovate: Journal of Online Education, 5(6), Innovate:

R. O. Heidrich, M. A. A. Branco1, J. B. Mossmann1, A. R. Schuh, F. Rebelo2, T. Oliveira2, 
presented at the 5th European Immersive Education Summit, Paris, France, 7-10

Teamwork Pedagogy in Higher Education. Small Group Research, 47(6), 619-664.

Human Behavior, 69, 120-127.

and Composition, 43, 55-72.

Education. Presented at the 5th European Immersive Education Summit, Paris, 