

GLOBAL TECHNOLOGY EDUCATION IN THE CONTEXT OF THE GRAMSCIAN WORLD-VIEW

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Abstract

The Gramscian context refers to the writings and vision of Antonio Gramsci, which have an increased relevance for society today. His comments on the organic intellectual and the need for mass education can be applied to problems we currently face in preparing young adults for the digital age. The need for mass technical education is based on the revolution in the marketplace and in technology itself, which increasingly demands highly literate and trained problem solvers. The “digital divide” is the technological “other side” to the uneven benefits to be derived from an unconstrained global privatization. Only a critical pedagogy can provide the more radical but much needed break from formal “single loop” problem solving and the “surveillance-based” education of the past. Chardin’s notion of noosphere now extended to the cyberspace “membrane” is a powerful metaphor for holonic, systems-based democracy required for a truly democratic global civic society. The global community college has been proposed as a model for a changed world. Global mass technical education can be advanced worldwide through implementation of the goals of the Bologna Declaration combined with serious efforts to overcome the digital divide.

THE GRAMSCIAN CONTEXT

There is a binary nature to the Gramscian analysis of education: one aspect of Gramscian thought is critical while another aspect is affirmative. The critical side consists of Gramsci’s concept of hegemony and the organic intellectual. The affirmative and positive side relates to opening up educational opportunities and possibilities for underserved and economically challenged populations.

By “hegemony,” Gramsci meant that the socio-economic elites governed through a subtle but sophisticated control imposed by the cultural superstructure. On a more profound level, Gramscian analysis challenges “privileged explanations” in the academies and touches upon theories of knowledge acquisition.

According to Gramsci, hegemony was the result of an organizing principle that, through the very process of socialization, was made both invisible and automatic. The masses internalized into “common sense” the philosophy, culture and morality of the ruling elite until bourgeois consciousness comes to appear as the natural order of things (Boggs, 1976).

On the positive side, through conscious efforts to raise the literacy and intellectual levels of students, especially through specific work in adult education, Gramsci introduces the notion of “educative politics” which is a process whereby workers move from “common sense” to “good sense” (Coben, 1994). In Gramsci’s own words:

“What the proletariat needs is an educational system that is open to all. A system in which the child is allowed to develop and mature and acquire those general features that serve to develop character. In a word, a humanistic school, as conceived by the ancients, and more recently by the men of the Renaissance. A school, which does not mortgage the child's future, a school that does not force the child's will, his intelligence and growing awareness to run along tracks to a predetermined station. A school of freedom and free initiative, not a school of slavery and mechanical precision. The children of proletarians too should have all possibilities open to them; they should be able to develop their own individuality in the optimal way, and hence in the most productive way for both themselves and society. Technical schools should not be allowed to become incubators of little monsters aridly trained for a job, with no general ideas, no general culture, no intellectual stimulation, but only an infallible eye and a firm hand. Technical

education too helps a child to blossom into a man - so long as it is educative and not simply informative, simply passing on manual techniques. Councillor Sincero, who is an industrialist, is being too meanly bourgeois when he protests against philosophy. Of course, meanly bourgeois industrialists might prefer to have workers who were more machines than men. But the sacrifices which everyone in society willingly makes in order to foster improvements and nourish the best and most perfect men who will improve it still more - these sacrifices must bring benefits to the whole of society, not just to one category of people or one class. It is a problem of right and of force. The proletariat must stay alert, to prevent another abuse being added to the many it has already suffered (Gramsci, 1916)."

Parker Palmer has recently reinforced this democratic humanistic vision of schooling in his book "Courage to Teach" where he argues against the unauthentic and divided learning environment. The individual's sense of isolation experienced when living in an unauthentic culture is overcome by joining communities of likeminded people who are engaged in some sort of opposition to the conditions giving rise to bifurcation (Korten, 2001).

It is clear that both globalization and technology have been "put on trial" and that there is a significant and growing body of literature critical of the impact of globalization on locally rooted and self-reliant economies. The negative side of globalization has been the focus of much discussion, especially as it relates to the Third World, to the environment, and to women. In academia, the same issues that divide the world are rending many departments dysfunctional as a result of conflicts over ideology and political correctness. Academic discussions regarding the political economies of knowledge production can become political, based on one's stance on issues of deconstruction, feminism, and globalization.

According to the Gramscian world-view, the WTO demonstrations themselves are educative for the participants and the focus of that learning could be considered a praxis that desires to build a "global ethical society." The communities represented in the protests constitute a physical network and as well as an electronic one. The participants created a global democratic process, including coordination of tactics and strategy via the Internet. Globalization was no longer simply a top-down, secret, and one-sided affair.

The Gramscian analysis relates to global technical education. The transformative school of higher education emphasizes the ability of educational experiences to bring about real changes in people and organizations. Networks can also be transformative. Networks of transformation now exist that are helping to build a global civic culture. These networks can also open up education and employment opportunities for peoples throughout the world, assuming that issues of the "digital divide" can be consciously addressed and that all efforts at economic development and infrastructure include extensive budgets for networks, computers, and technical training and education. Here "digital divide" is defined as the growing disparity among social groups in computer ownership and overall use (McConnaughey, 1997).

THE NEED FOR MASS TECHNOLOGY EDUCATION

Recent trends in higher education include changes in the marketplace, changes in student demographics, and changes in employer needs. The marketplace has become international with an ability to enroll students throughout the world. For example, the American-style community college has to revise its mission and charter to be able to compete with e-colleges, proprietary and non-profit colleges. In addition, students are enrolling at slightly older ages and often have to juggle jobs and family responsibilities with academics. Employers now require the baccalaureate degree and graduates capable of higher-level thinking and problem solving (Walker, 2001).

With respect to technical education, recent advances in computing technology have given rise to a new collection of technologies that must be learned in short order and taught efficiently if students are going to find timely and meaningful employment in the global economic job market. The list of these technologies is a constantly moving target. These include Advanced Java 2 Platform topics such as J2EE, Multi-tier/distributed Computing, XML, DTD, DOM, Enterprise JavaBeans, 2D and 3D graphics, Advanced Swing GUI components, design patterns, internationalization and accessibility, database SQL and JDBC, servlets, session tracking and cookies, remote method invocation, peer to peer web services, wireless protocols, e-business, etc. Just the subject of XML itself requires students to learn some Java, Perl/CGI, and active server page technologies including HTML, XHTML, CSS, DTD, Schema and Parsers, DOM, SAX, Xpath, Xlink, Namespaces, and other related technologies.

From the Digital Divide to Digital Democracy

The issue of digital divide is simply the lack of societal technology access on the part of minorities and the poor who must live and compete in an increasingly technology-enabled and connected world. Ever since the Bologna Declaration of 1999, Europe has attempted to address the issue of the digital divide by taking concrete steps to improve and democratize access. The Bologna Declaration was signed by the European Ministers of Education from 28 countries and outlines fundamental changes to higher education. The ministers declared in part:

“... a Europe of Knowledge is now widely recognized as an irreplaceable factor for social and human growth and as an indispensable component to consolidate and enrich the European citizenship, capable of giving its citizens the necessary competencies to face the challenges of the new millennium, together with an awareness of shared values and belonging to a common social and cultural space.”

Regarding issues of access, they called for a cheaper, faster, and more secure Internet, investment in people and skills, and for new approaches to stimulate the use of the Internet. European Ministers adopted **eLearning initiatives** with various priorities: improvement in infrastructures and equipment, digital literacy for all graduates, digital literacy for teachers, creation of online learning platforms, access for all workers to digital literacy, and the networking of all schools in Europe.

Yet, despite great efforts, there still exists tremendous unevenness in development between northern and southern Europe and, in addition, an unfathomable gap between the haves and have-nots worldwide. Indeed, if we listen to Chomsky, the globalization enterprise if allowed to proceed on the basis of unrestrained capital, will result in the globalization of poverty and the restoration of colonial patterns. The result might not be a benefit to the general population but rather a framework for a world of growing inequality with a large majority consigned to suffering and despair in the interests of narrow sectors of privilege and power (Chomsky, 2001).

It has already been pointed out (Castells, 1998) that the other side of the information age is inequality, poverty, misery, and social exclusion and that unless we redefine social development in the information age to mean a massive investment in people and communities worldwide, we cannot be assured that the social transformations now taking place will have a positive result.

It will take a dramatic investment in overhauling the educational system everywhere, through cooperation between national and local governments, international institutions and lending agencies, international and local business, and families ready to make sacrifices for a tangible improvement of their children’s future. It will require the establishment of a worldwide network of science and technology, in which the most advanced universities will be willing to share knowledge and expertise for the common good. It must aim at reversing, slowly but surely, the marginalization of entire countries, or cities or neighborhoods, so that the human potential that is being wasted -- and particularly that of children -- can be reinvested. All people must become valued producers and consumers, and they must be recognized as human beings in fora other than the thirty second commercials of international organizations (Castells, 1998).

CRITICAL PEDAGOGY AND THE NOOSPHERE

The Sorbonne Declaration of May 25th, 1998 expressed a European desire to reform the structures of its own higher education system to ensure wider access, lifelong learning opportunities, and provision for practical and employable skills.

In the following year, the Bologna Declaration called for the introduction of new, meaningful undergraduate degrees based on shorter, flexible, and more relevant courses. This European interest in a cycle of shorter studies and a 2-tier degree structure is interesting because it is precisely what the community colleges movement in the States has been doing for years, with great success.

Teilhard de Chardin’s concept of noosphere is a helpful metaphor to understand what is needed. Chardin views the Earth as an evolutionary unfolding in which it (the earth itself) grows a new organ of consciousness called the noosphere analogous to the cerebral cortex in humans. The noosphere is a planetary thinking network of “self-awareness, instantaneous feedback, and planetary communication” (Kreisberg, 2001).

Removing the theological content from the metaphor, one can think of the “noosphere” in terms of its full potential to coordinate and network global technical education. One important component of this coordination in the USA is the network of thousands of community colleges across the country -- schools that predominately serve the less privileged stratum of local communities and yet which, simultaneously, provide a modern and global-based education at a relatively low cost. The League for Innovation in the Community College has established a model schools program that spotlights best practices in learning and teaching in the community college.

The League for Innovation was originally created for the purpose of promoting computer technology in the community college. This organization holds an annual Conference on Information Technology (CIT), which creates an environment that fosters globalization in national and international communications among community college educators. The Conference also sparks multiple exchanges of ideas for enhancing the teaching and learning process and offers a path to support the human side of technology while helping break down barriers and fears about technology.

The League consists of 20 outstanding community college districts throughout North America. The League Alliance includes more than 700 community and technical colleges from around the world. The purpose of the League for Innovation is to encourage new practices, experimentation, institutional transformation, and the continuing development of the community college movement internationally. Many of these innovations, like the establishment of multidisciplinary learning communities, recognize the need for multidisciplinary and interdisciplinary approaches.

In addition, the League’s Foundations Project seeks to “enable community colleges to create transformative communities of faculty, staff, administrators, trustees, community partners, and students. The Center strives to foster communities of the heart by working with colleges committed to supporting individual and institutional formation. “

The simultaneous revolutions taking place in the marketplace, in organizations, and in technology require a radical departure from past educational forms of delivery. There is an increased need for both educational breadth and depth: skills will be needed in areas beyond technological subjects and the “multidisciplinary nature of technology” will require multidisciplinary degrees (Anton , Silbergliitt, & Schneider, 2001).

Cogburn argues that the existing educational model needs to be replaced by a new system of knowledge, education, and learning to embrace a new focus on abstract concepts like modeling and a non-linear, holistic approach to learning. Students’ abilities to manipulate abstract symbols must be enhanced as well as their general ability to acquire and utilize abstract knowledge (Cogburn, 2001).

Although such changes in pedagogy constitute a critical pedagogy and a much-needed break from formal “single loop” problem solving and the “surveillance-based” education of the past, it needs a practical form to have any real effect.

For example, Central Piedmont Community College, in Charlotte, North Carolina, has joined 15 other community colleges in the League of Innovation’s 21st Century Learning Outcomes Project. Colleges were selected because they have demonstrated interest in defining, developing, delivering, and documenting student learning outcomes. The project goal is to increase the capacity of community colleges to define and document the acquisition of the critical competencies that students need to succeed in the workplace, in transfer education, and in today’s society. Grant Support was provided by a three-year grant from The Pew Charitable Trusts, a major philanthropic organization.

The Student Competencies identified by the Project are:

1. Communication skills

(reading, writing, speaking, listening)

2. Computation skills

(understanding and applying mathematical concepts and reasoning, analyzing, and using numerical data)

3. Community skills

(citizenship; diversity/pluralism; local, community, global, environmental awareness)

4. Critical thinking and problem solving skills

(analysis, synthesis, evaluation, decision making, creative thinking)

5. Information management skills

(collecting, analyzing, and organizing information from a variety of sources)

6. Interpersonal skills

(teamwork, relationship management, conflict resolution, workplace skills)

7. Personal skills

(ability to understand and manage self, management of change, learning to learn, personal responsibility, aesthetic responsiveness, wellness)

8. Technology skills

(computer literacy, Internet skills, retrieving and managing information via technology)

GRAMSCI AND ADULT EDUCATION

It is possible to view these “critical competencies that students need to succeed in the workplace,” as a neo-liberal conspiracy to create a compliant workforce meeting the needs of globalization and capitalistic restructuring. (Mayo, 1999). If we define hegemony according to Gramsci as a “social condition in which all aspects of social reality are dominated by a single class,” then adult education, especially adult community college education, is certainly constrained by hegemony; any hopes for a “transformative” education are mitigated by this limitation.

Despite this ubiquity of hegemonic domination, a two-way reciprocal process is possible whereby faculty members engage with the logic of "the system" and a discussion takes place on competing perspectives in community college education. [Mayo, 1999] Part of this process requires engaging with faculty across the political spectrum. Learning about and respecting faculty entails understanding their material conditions, especially in times of organizational downsizing known as "institutional restructuring." For many faculty members these material conditions are the "abyss" of unemployment and insecurity, rather than the bright springtime of renewal.

A “transformative pedagogy” under such circumstances can unwittingly "downshift" from liberation to domestication and what Freire calls "banking education," that is, a top-down approach to knowledge acquisition and transmission, a non-reflective mode of learning where the student is the passive object rather than the subject of the learning process.

In the same way, faculty can be made into the passive "objects" of organizational structuring when the process has been driven by naked market and political forces. The concept of participation has been appropriated into a neo-liberal context in which the government abdicates its responsibility for ensuring quality educational services, and abandons any pretext of being guided by the principles of equity and entitlement (Mayo, 1999).

The offloading of social responsibilities to the family, the individual, and the community in the circumstances characterized by stringent budget cuts has its parallel in the request that faculty "participate" in its own restructuring. This is problematic to say the least. To quote Jane Thompson, a theorist on transformative adult education:

"There is no such thing as a neutral education process. Education either functions as an instrument which is used to facilitate the integration of generations into the logic of the present system and bring about conformity to it, or it becomes the "practice of freedom," the means by which men and women deal critically and creatively with reality and discover how to participate in the transformation of their world" (Thompson, 1988).

It is difficult, if not impossible, to separate issues such as salary, benefits, working conditions, and governance from discussions regarding curriculum, teaching and learning processes, and innovation.

I continue to hope that transformative solutions are possible. The problem is that participants need to feel safe as they experiment responsibly, whether we are talking about the classroom or about organizational change. People do not feel safe. Outcomes are uncertain or are prescribed by the administration. Community College faculty often feels that there has been little real group participation. Just as we criticize class time domination by the teacher using a "delivery model" of teaching, it seems that our organizational change has been external to us -- the result of a reification or prescription of values.

Currently global technical education at the community college level is part of a renaissance in learning in which the “black art” of teaching is being reinvented and understood as both an art and a science. For example, scholars associated with the League for Innovation have stressed the following topics for professional development of faculty (O’Banion, 1994).

- a) **Teaching vs. learning**
- b) **Assessment and TQM**
- c) **Improving opportunities for under-prepared students**

- d) **Transformative faculty development**
- e) **The community college faculty as scholar**
- f) **Use of learning communities**
- g) **Technology enhanced education**
- h) **Collaborative and group learning**
- i) **Experiential and service learning**
- j) **Distance learning**

In addition to figuring out how to bridge the digital divide, instructors will increasingly be discussing how to implement this more humanistic, more effective approach to teaching and learning. A technology-based renaissance in pedagogy is emerging that holds great promise for its applications to global technical education and training. Whereas the Renaissance looked back towards antiquity for inspiration and a rebirth of learning, our neo-Renaissance looks Janis-like, simultaneously backwards and forwards -- into the future of an information age and the possibility of an associated global participatory democracy.

CONCLUSION

Gramsci has renewed relevance in today's information society. His comments on the organic intellectual and the need for effective, humanistic, adult education can be applied to problems we face today in preparing young adults for the digital age. The need for mass technical education is based on the many revolutions taking place, especially the application of information technology in a global business environment. The "digital divide" in which the "haves" enjoy global connectivity and telecommunications services and the "subalterns" have limited, if any, access, is a reality under increasing scrutiny. Critical pedagogy can provide theoretical material needed to remake technical education and training according to the humanistic vision of Gramsci who espoused an education informed by political and cultural leadership. The globe itself is also threatened by environmental destruction. Chardin's global brain is a metaphor for a networked intelligence that can take corrective action on behalf of the planet and on behalf of humanity. The global community college and its progress in innovation in innovation have been proposed as a model for global technical education in a globalized and changed world. Global mass technical education can be advanced through implementation of the goals of the Bologna Declaration combined with serious efforts to prepare students for meaningful work in the digital future.

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