

A Pedantic Position for Potential Progress in Pedagogy:

A Renaissance in K–12 Education Through Good Design

Reid Douglas Parham

Written under the guidance of Associate Professor Andrea Marks of Oregon State University for Contemporary Issues in Graphic Design, Winter 2007.

Thank You

Andrea Marks
Dau Nguyen
Ryan Schroeder
Ashley Slocki
OSU Libraries

Abstract

one word...

reasoned

one sentence...

The questions for this new frontier are: after this global political upheaval, will more education bring radical social change, just as technology brought political change? Would people learn from mistakes of the past?

one paragraph...

Blogs, video blogs, podcasts, newsfeeds, bittorrent, peer-to-peer networking, social networks, text messaging, wikis and discussion boards are the frontier of publishing technologies. The growing momentum that theoretically underlies them all encourages open, free systems of information and media that properly reflect their social reality, rather than subjecting end-users to proprietary commercial specifications. Previously, the idea of public and private (read: state and market) has been seen as black and white—but is now possibly better explained as a continuum. No, the middle ground does not occur between these two, but there is an addition beyond public—open, free, universal and translatable. This is not a direct extension of the 1970s universal design movement but an emergence of the 'Free Culture' (or 'Design it Yourself') movement created by Reagan. Information must no longer be a walled-off, controlled commodity. The principle laws of economics hold true in this new era but new rules define a frontier where duplication only costs bandwidth—the information age is largely immaterial. Ever-increasing connectivity turns data to information and brings information to the social networks, creating transcendence from static to knowledge. Closed systems will soon fail through their tendency to cause duplication of efforts; economics always prevail. Librarian and Consultant James W. Marcum argues that information is most valuable upon discovery. This diminishing return that is experienced should encourage people to publish. Information cannot be thought of as a stationary commodity—connectivity turns information systems into knowledge systems.

Introduction

The failures of American education in the late 20th century can be directly attributed to one problem—technology. In the late 1980s, we began a critical shift away from proficient information understanding and toward only basic understanding. This was the beginning of an era where we can find everything but understand nothing.¹ To regain a relevant and effective position in the world, our public education will need to focus on teaching *methods* for understanding information, not *systems* for accessing information. Finally, the members of society critical to the systems of information access—designers—need to step up and usher in the era of understanding. Not only are there questions of authorship, ownership and audience that society must answer, but this paper will (eventually) attempt to answer as well.

“Go Ahead, Make My Day.”²

With deregulation beginning in the 1970s and trickle-down ‘Reaganomics’ starting in the 1980s, America was positioned for great change. Business flourished, technologies developed, innovation increased and employment grew—this post-war society had become postmodern. Entering the 1990s as the sole world superpower, the United States would further establish its dominance. The new frontier was the global economy. The ideology was innovate or die; here today, gone tomorrow—everything would now happen in the blink of an eye. Not only had the “Evil Empire” been defeated, but also—through technology—the idea of God as an omnipotent being could be challenged.

We had unlocked the atom in the 1940s, conquered our land in the 1950s, won the race to the moon at the close of the 1960s, exploited silicon during the 1970s, globalized businesses in the 1980s and became the sole provider of western culture in the 1990s—omnipotence appeared to be just around the corner. Each decade saw advances in medicine, transportation and communication; the world was shrinking while our western culture was growing. While problems were had, they were short-lived and never “our problems.” Wars of the 1950s and 1960s were without resolution—but never on *our* soil. The oil crisis of the 1970s would be solved—the Middle East would soon face turmoil. AIDS would bring a new health scare in the 1980s—but only for homosexuals and minorities, not *us*. And while a president could shame a whole nation,

he is forgiven—we love blowjobs! Culturally, economically and militarily, we were impenetrable, unstoppable.

Cycles, Booms and Hegemony

Western culture loves measurable periods of time: calendar and fiscal years, decades, eras and centuries, pregnancy, infants, toddlers, pre-teens, teens, emerging adults, young adults, middle age, over-the-hill, octogenarians and senility. We Americans are the Lost, Silent Hill, G.I., and Baby Boomer generations; Generation Jones, X, MTV, Boomerang, Y, i and Z.³ While the eras are becoming smaller and the definitions less clear, these generations are primarily designated by birth and parentage—secondarily by experience.

Our culture is also rich with traditions of the rites of passage, assuring homogenized experiences across age groups. Infants are coddled, toddlers taken on walks, pre-teens ride and run and teens begin to drive and find their sexuality. Generations often take on a specific persona; the G.I Generation values duty, Baby Boomers live for diversity and Generation X seeks individuality while more recent generations seek identity.⁴

The most timeless cycle—patriarchy—has been propagated throughout the whole history of civilization, as evidenced by the ‘Yahweh’ (the ‘J’ author of the Pentateuch) portions of Genesis, written circa 950 B.C.E.⁵ Men—typically white—have inherited the earth through oppressing others, causing the tenets of western culture—thought, organization and historical virtue—to belong to those very white men.

The ideas of Modernity sought to disturb this cyclical civilization and find great innovation by rejecting tradition. Politically, this movement began in the 1400s as the ‘post-medieval’ beginnings of capitalism, socialism and industrialism. Socially this movement was embodied by urbanization and the birth of media with Gutenberg’s printing press, two situations that would both provoke the reactionary ideals of individualism.⁶ Where apprenticeships had become commonplace, this new individualism led to greater specialization of labor by returning to the Classic Greek educational ideals of Plato’s University. This would seed the industrial revolution and provide further sociopolitical growth.

Individualism would eventually expand to postmodernism, allowing inanimate objects and systemic processes to be examined for their

individual components. This new period largely built from the bold, aggressive progress in art and technology as created by the wars of the 20th century. Art found Cubism just as the Western University strongly embraced science. World War One inspired Dadaism just as the military industrial complex emerged. In the course of the next two decades, America would go from a depressed nation to a New Deal Economy, perfectly poised for the wartime economy that won World War Two. When this turbulent first-half of the 20th century ended, individualism, specialization and the modern university grew at unprecedented rates.⁷

This rebirth of universities (and education)—the child of the chaotic Modern Period—occurred during a new era of relative stability, greater balance of wealth and literacy rates that were higher than ever before. The questions for this new frontier are: after this global political upheaval, will more education bring radical social change, just as technology brought political change? Would people learn from mistakes of the past?

Learning From the (Recent) Past

Beyond the subtle nuances of these cycles, booms and hegemonic phenomena that find great attention from scholars, America today has a very visible issue—public education. This realm is particularly problematic because not only is it mandatory, but it also involves several hot-beds of contemporary debate—sexuality, religion versus science, sensitive periods of psychological development and romanticized ideals of tradition.

Such traditions are often a product of the homogenization of experience for age groups. Often seen in careers as well, tradition has it that teachers begin as novelties in their mid-twenties, become legendary during their forties and impotently substitute in their fifties and sixties. It is often females who teach K–12 schools (82 percent) and males who teach college (55 percent).⁸ Gender divisions in teaching often mirror the divisions seen in their typecasted respective industries; men in science and math and women in the liberal arts. Stratification leads to cultural systems that perpetuate themselves, necessitating affirmative action to break the cycle.

While labor unions have historically brought positive change to the lower and middle classes, Teachers' Unions—another impenetrable system—have been blamed⁹ for failures in education. By taking

traditional arguments of hours and conditions to a new level, union policies have gone too far in opposing accountability. For example, the National Education Association has opposed merit pay, school vouchers, tenure reform and curriculum reform. Generally, this reflects a pervasive argument of system organization taking priority over methods of instruction.

Arguments over curriculum take on a similar battle—what is taught becomes paramount to how it is taught. Currently, males learn better from male teachers and females learn better from female teachers.¹⁰ It would be easy to argue for—and take action on—the need for changes in teaching methods, but the debate of intelligent design versus evolution has dominated contemporary discourse in education policies. This failure to address the real needs of students by focusing on the politics also exists within sex education, gender identity, religion and civics. Such problems set up a generation of emerging adults¹¹ for epidemics of sexually transmitted diseases and unplanned pregnancies,¹² among a growing disconnect from the new frontier of the global society. In an age when diversity of thought and culture—among the need for individual identity development—has become so critical for society, for schools to teach in monologue¹³ does great disservice to all Americans.

Chicken or Egg?

Further proof of the trouble with current education policy is the cycle of poverty; ignorance begets the ignorant, foolishness begets the fools and isolation begets the isolators. It is only within socioeconomics that we commonly blame the individual or symbolic unknowns for the cyclical problems; the time will come that systemic blame of cause-and-effect—as seen in legal practice—becomes acceptable. Few criminal cases of physical or sexual violence are without the attack of the defendant's character and behavioral pattern; nor does a proper defense attorney proceed without citing histories of abuse and neglect.¹⁴ Another relevant example of misplaced blame may be the perception of cancer; just as a history of unchecked chemical use and disposal is free of blame, a history of social injustice and imbalance is also ignored. We put great money, effort, time and thought toward this well-designed and well-marketed 'Race for the Cure'¹⁵ without even attempting to find the cause. We have our '21st century classrooms' commanded by inadequately trained (though certainly well-intentioned) teachers worried about

merit pay and federal standards—in addition to the threats of administrative repercussions that may arise when students ask about sex.

Beyond the classroom, the education system as a whole suffers; as budgets have shrunk, institutions were often forced to seek sponsorship as a means to fund projects. Schools adopted branded foods, purchasing agreements, branded TV shows and sponsored teams. Universities have contracted out trademark rights, sold advertising within athletic events, branded their teams, welcomed food and drink corporations and their grounds have even become recruiting arenas for new credit card customers.¹⁶ Each of these situations have involved designers in the role of facilitating commerce and creating value—for private parties.

While these changes have not been unusual for the climate within which they occurred, there has been particular significance in what has been sacrificed to get them. Supplies are sparse, programs—art and music in particular—are cut and facility maintenance is deferred. The Oregon University System has accrued over 22 percent of their total facilities’ value in deferred maintenance.¹⁷ As desks crumble and books become obsolete, the US education system falls behind other prosperous nations. In 2007, UNICEF ranks the US as the 21st country in the world for “educational achievement of fifteen year-olds,” examining their performance in reading, math and science.¹⁸

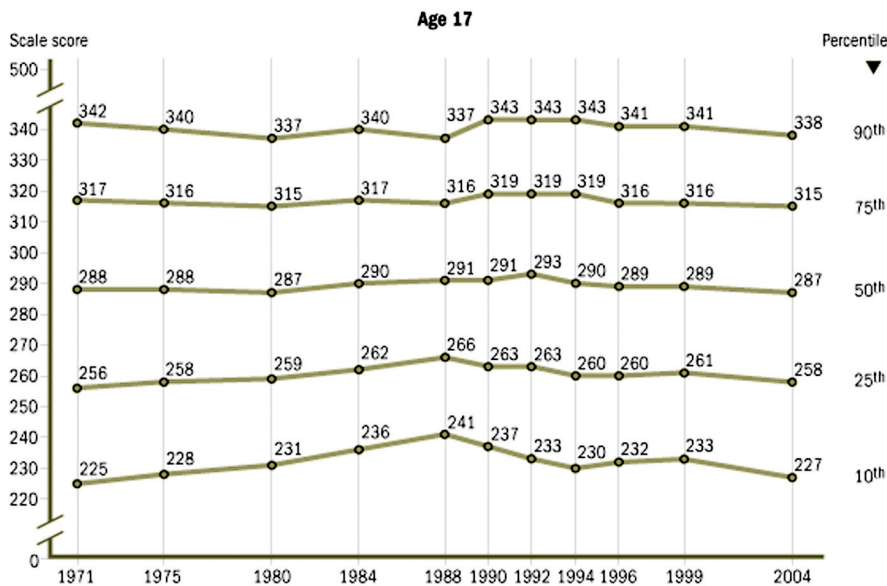


Figure 1: Trends in reading scale score at selected percentiles

One explicit, well-measured disruption in the performance of American students came in the late 1980s. The parity of reading performance for seventeen year-olds had been improving across the board from 1971 to 1988 when a severe turn in the other direction occurred (Figure 1). Mirroring the socioeconomics of the rich becoming richer and the poor poorer, high performing students would become increasingly better and low performing students would become severely worse. What is especially problematic about these performance measurements is that the changes occurred right as the use and instruction of computers in high schools had its largest increase.¹⁹ Whether mere coincidence or strict correlation, both situations are troubling and will have pervasive effects throughout the lives of generations X, Y and Z (and their respective sub-groups).

What these generational cycles show is that the boon of one generation can easily become the bane of the next, with the opposite being true as well. Since the mid-1970s, curriculum for educators has instructed them how to technically interact with new information communication technologies.²⁰ Also emerging at that time were early studies of Visual Culture.²¹ With impactful academic studies on Visual Culture not occurring until 1986,²² it is unlikely that the previous schooling for educators had much substance beyond technical instruction.

Currently, the Oregon University System offers few courses dealing with the issues of computers as learning tools within educational environments. Oregon State University offers eight, one-credit modules that are optional and taught online, each dealing with a specific topic. Western Oregon University has two courses—Instructional Design and Technology Integration (three credits each)—the latter being required. At a cursory glance, this author believes OSU's instruction to be inadequate and WOU's to be promising, but with room for improvement; other universities in Oregon do not offer similar curricula. Furthermore, the assumption that a three-credit course could cover the topic of instructional design—when this author perceives it as such a tricky subject in the design world itself—is naive. If these public universities of (self-proclaimed) good pedagogy currently provide only these classes about information communication technologies, it is likely that currently practicing teachers have a disappointing grasp of technology as a tool for learning.²³

Initiatives to encourage continuing education of teachers exist; Washington State recognizes such efforts by increasing compensation. Their program requires fees and tuition to be paid by the individual, creating a short-term burden that brings long-term benefits.²⁴ But, with forty percent of the public teaching force expected to retire between 2005 and 2010, the expense-to-benefit ratio of continuing education is undesirable for a large number of teachers.²⁵

As education and culture makes trades and deals to obtain the services and technologies they want, the purchasing agreements that go along with them may very well end up hurting these institutions further. Closed and proprietary systems²⁶ have been inadequate, buggy and labor demanding. Technology support infrastructure has grown greatly while physical infrastructure crumbles around them. With such money to be made from technological investments, incredible wealth to be earned in IT positions and assurances of income to be obtained through purchase and licensing agreements, the rationale for more technology (or specific technologies) is likely without proper neutrality. This is—once again—a case where designers’ talents and efforts have become the ‘grease of the wheels’ for industries, while neglecting—and arguably harming—public education.

While the privatization of American telecommunication and interstate transport industries have brought great progress, education has fallen behind and threats of privatization (through school vouchers and faith-based initiatives) are around the corner. Previously, the idea of public and private (read: state and market) has been seen as black and white—but is now possibly better explained as a continuum. No, the middle ground does not occur between these two, but there is an addition beyond public—open, free, universal and translatable. This is not a direct extension of the 1970s universal design movement but an emergence of the ‘Free Culture’ (or ‘Design it Yourself’) movement created by Reagan.²⁷

Progress—As Seen on TV

In the mid-20th century, it was common for two-thirds of university students to fail. By the 1990s only one third would fail.²⁸ In a new millennium full of new buzzwords—the information age and knowledge economy, among many—what has now become critical is that all voices are heard. Broadcasting had once reigned supreme, reflecting

a social structure where official publications were necessary; *signals* represented ideas—the narrative devices of yesteryear. As societies have become more visually sophisticated (and less well-read) consumers, microcasting has begun to take hold and *meaning* now represents ideas. Postmodernism and networking has brought fragmentation of social structure and media assets to broaden our view and increase the flood of information. What has become critical in this age of meaning is the understanding of intent and context within the sender-receiver relationship;²⁹ situations which build upon the tenets of semiotics—a field often studied, written and utilized by designers.

Publishing technologies and sender-receiver relationships have existed long before radio and TV. Although they all have set standards, they are without context, continuums or dialogue; they lack interaction and meaning—they are disconnected, static. Radio has its callers, its fanatics and its die-hards. TV has its couch potatoes, its armchair quarterbacks and its person-on-the-street interviews (or pundits and representatives brought in for screaming matches pathetically framed as debates). What they both (in their current corporate incarnations) lack is a method for meaningful interaction—give and take. Neither individuals nor groups can be a part of pop culture—whether taking from it or giving to it—without doing the opposite as well; by being in the machine, the public defines it as much as it defines them.³⁰

A new movement of pop culture—Web 2.0—leverages technological feats based on the ideologies of universal design. Its growth is in response to calls for greater diversity of choice, ownership, information access and relationships. Such calls for diversity have come in response to a commercial monoculture of stereotypical white, suburban America (as designed by top-dollar marketing and advertising firms).³¹ Calls for greater freedom of speech have come in response to marketing monologues.³² Large and contentious public battles have already occurred over trademark disputes, copyright and patent infringement, author plagiarism and—possibly most contentious of them all—music and video piracy. The stage has been set for revolution—this is the spectacle of the 21st century.

Blogs, video blogs, podcasts, newsfeeds, bittorrent, peer-to-peer networking, social networks, text messaging, wikis and discussion boards

are the frontier of publishing technologies. The growing momentum that theoretically underlies them all encourages open, free systems of information and media that properly reflect their social reality, rather than subjecting end-users to proprietary commercial specifications. Information must no longer be a walled-off, controlled commodity. The principle laws of economics hold true in this new era but new rules define a frontier where duplication only costs bandwidth—the information age is largely immaterial. Ever-increasing connectivity turns data to information and brings information to the social networks, creating transcendence from static to knowledge. Closed systems will soon fail through their tendency to cause duplication of efforts; economics always prevail. Librarian and Consultant James W. Marcum argues that information is most valuable upon discovery. This diminishing return that is experienced should encourage people to publish. Information cannot be thought of as a stationary commodity—connectivity turns information systems into knowledge systems.

Collaboration is already the heart of contemporary success—together we do more; rarely do we need to re-invent the wheel, but rather build it off-the-shelf.³³ Basing communication (and thus, design) on universal truths is not only the principle tenet of semiotics but also smart business. This re-emergence of collaboration is no accident—technology is socially driven. Technology may create new social situations but this will always build on social phenomena; interaction is paramount. Certainly, the current lexicon of interaction involves far too many epithets, slurs and arguments (flamewars) to be truly constructive. But as interactive media becomes more sophisticated as a tool for information dissemination—and gains greater meaning—it will find legitimacy.³⁴

In this infancy of networked media, mature media is seen as threatened. Investment fund managers recommend avoiding newspapers and layoffs have been common—even for award-winners like the Los Angeles Times.³⁴ What corporate owners and fund managers are overlooking is that the greatest source of original, in-depth reporting is the newspaper. While Google is unquestionably a profitable giant, its content is aggregated. In particular, Google News utilizes feeds of major news outlets. So while some money has moved to new media, old media still does the work and still turns profits. Just as the re-invented frontier for labor is collaboration, synergistic and complementary roles will be the re-invented frontier for media. Good reporting always gets noticed—

the 24-hour news cycle just needs a lot of filler content. New media will bring new opportunities for independent voices, but for now the reliable voices will be the shining examples of corporate media—CBS’s ‘60 Minutes’ was the first news show to turn a profit and remains the top “hard-news” program, despite aggressive competition.³⁶

Solution—Good Design

What is true for all aforementioned technologies is that they are socially driven. Some arguments posit that technology drives society but distinguished scholars have argued otherwise.³⁷ The earliest example of this is the invention of the microscope, allowing people to “see the unseen” and providing the birth of media arts. So named for the monks’ cells in monasteries, cells of plants and animals are a vivid example of social shaping. It is no accident then, that as postmodernism has defined the late-20th century, scientists would toy with life creation, duplication and alteration just as technologies to create, duplicate and alter information are being developed, too.³⁸

This postmodern paradigm has allowed deconstruction, derivation, duplication and re-appropriation in arts and media. It is not yet clear when this period specifically begins, nor if it has ended. Contemporary graphic designer Warren Lehrer did not find a mature sense of postmodernism until the early 1990s.³⁹ The 1989 protest song “Fuck tha Police” by *Niggaz With Attitudes* was one of the earliest and most commercially successful examples of appropriation for its use of a 1969 drum loop now known as the ‘Amen Break.’⁴⁰ Media artist Bill Viola had played with derivative works as early as 1982—much to the chagrin of art critics. It was not until 1985 that his re-appropriated art found its earliest acceptance. Viola opines⁴¹ that the public has not yet embraced postmodernism; it is unlikely that this period has ended. The consequence will be current generations continue to fall behind if they cannot “make peace” with postmodernism and understand the contemporary framework—a situation incompatible with existing hegemonic monologues.

Recommendations

As the world looks to the future to identify where further progress will occur, an agreed upon set of goals and requirements are necessary

to avoid mistakes of the past. The following points are this author's recommendations for the new frontier of positive education changes and derive both from contemporary authors and the ideals of design education in the realm of the liberal arts:

- Construct Methods for 'Dynamic and Profound Learning'

Five critical situations are required for what Marcum has called 'Dynamic and Profound Learning:'

1. Historic Self-Awareness

Through discussion of—and engagement with—events of the past, the needs of today can be better understood. This allows all to authoritatively know their standings while transcending myth and oral tradition.

2. Open Belief Systems

"An open belief system ... exhibits much greater capacity to discriminate regarding new information. The various components of the system communicate fully with one another. The environment is assumed to be friendly, or at least neutral, and consequently its messages can be considered and accepted or rejected according to personal preference."

3. Engagement

Treating students as participators, rather than receivers will allow the connection of people to both each other and macro issues. This should result in greater participation in the processes of social organization.

4. Activity and Learning

"You are what you do" is the creed. This is the synthesis of knowledge through problem solving and treats learning as a personalized process, rather than a commercialized solution.

5. The Social Mind

The post-modern realm requires narrative—meaning trumps signals. We absolutely require context, comparison and personal connections. Many thirst for the establishment of their own identity.

- Seek Meaningful Agreements Through Proper Collaboration

Great infrastructure already exists within legislative and education policy bodies at local, state and federal levels. A meaningful, substantive public discourse begins here and—through strategic planning—can set positive goals, directions and objectives for change. As demonstrated in innovative design and MBA programs at leading universities, effective collaboration is no accident. Managing expectations, utilizing acuties and creating shared ownership are just a few of the many processes explained by contemporary authors.⁴²

- Consider The University Research-and-Instruction Duality for K–12 Schools

Many colleges have not only provided greater innovation but also greater instruction through their research endeavors. While the research usually requires industry partnerships and largely appears to be solely for the benefit of industry, such initiatives have provided great funding and scholarship opportunities. Instead of pervasive sponsorship and branding, K–12 could become a new frontier of research.⁴³

- Re-Invent the Textbook

The past few years have seen opinion columns, protests, open forums and even congressional debate about the lucrative grasp that publishers hold on higher education. Just as Google News has changed the newspaper through aggregation,⁴⁴ efforts from groups like the Wikimedia Foundation <<http://wikimediafoundation.org>> and the National Science Digital Laboratory <<http://nsdl.org>> aim to disturb and replace the hegemonic publishing industry. Regardless of the specific form and provider, a principle rule of design holds true here—know your audience. Use terms, forms and situations they understand, presented in fragmented units that allow the user control.

- Reconsider the Teacher-Student Relationship

Students are not students, audiences are not audiences—they are people, users, authors and consumers. Postmodernism and related sociopolitical changes in the late-20th century have proved this. Furthermore, that so many commercialized media situations could

require interaction but K–12 classrooms are still environments of monologue is foolish.

- Grow the Public Sphere

Two powerful opinions are worth citing; first, the dissenting opinion of Ninth Circuit Court Judge Alex Kozinski in the 1993 *White v. Samsung Electronics* case:

“Private property, including intellectual property, is essential to our way of life. It provides an incentive for investment and innovation; it stimulates the flourishing of our culture; it protects the moral entitlements of people to the fruits of their labors. But reducing too much to private property can be bad medicine. Private land, for instance, is far more useful if separated from other private land by public streets, roads and highways. Public parks, utility rights-of-way and sewers reduce the amount of land in private hands, but vastly enhance the value of the property that remains.

So too it is with intellectual property. Overprotecting intellectual property is as harmful as underprotecting it. Creativity is impossible without a rich public domain. Nothing today, likely nothing since we tamed fire, is genuinely new: Culture, like science and technology, grows by accretion, each new creator building on the works of those who came before. Overprotection stifles the very creative forces it’s supposed to nurture.”

Marcum wrote in 2006:

“Only a strong public can counter, oppose and overrule state-dominance and market-inequality created by the rising dominance of a consumption orientation for society.”

The legal, economic, social and cultural values of the public domain need to be protected and just like a system of checks and balance in democratic governance, no branch should control another. Legislation and legal precedent protecting Fair Use, parody and free speech in America must remain strong and in the best interest of *all* parties. The 1998 expansion of American Copyright Law violated this balance, allowing an excessive period of control and ultimately hurting the very creative freedom which it claimed to protect. This author proposes that a period of 27 years is adequate. As theorized, this is 1.5 times the most formative stage

of each generation—the first eighteen years. The aforementioned phenomena of cycles in culture and socially driven technology are specifically offered as defense of this position.

- Separate Content From Presentation

As seen in the Web 2.0 movement, technologies such as XML, CSS, RSS, XHTML have been causing a decentralization of information. RSS had seen a large expansion of use in 2006—many blogs, news agencies and web browsers both transmit and receive this format. The aforementioned Google News aggregator is an example of these technologies in action. Through APIs and standard formats, Mashups have provided learning opportunities for both creators and consumers of these media experiences.

[see Definitions, p. 23]

What these methods allow is the universal access of information. Freed from proprietary (or just plain cumbersome) formatting allows people to engage information on a deeper level through Fair Use.

- Diversify Teaching Methods

As this author's design education in a liberal arts environment has demonstrated, there are at least three major means of learning—auditory, participatory, and literary. This re-appropriation of information is the most vivid reason for the previous recommendation, along with the need to remove excessive intellectual property laws. Cursory looks at library catalogs and the bibliographies of this author's sources show extensive studies supporting this position already exist and that highly knowledgeable experts have weighed in with support; there is little more to say here that has not already been said by more authoritative parties.

- Designers as Consultants—From the Beginning

Certainly, the previous arguments do not say that professional expertise and official presentations are obsolete—they may be even more necessary. Once again, *what* they present is critical. The paradigm of culturally relevant display of historical narrative is where only the expert is most useful. Creatives must learn of, understand these technologies and—though they need not be technical experts—facilitate their use.

With these new technical requirements, the computer sciences are likely to be proactively involved; it should be cautioned that those who procure services continue to hire designers and technicians (in addition to other consultants) at the same time. Each is to play their respective technical and artistic roles,⁴⁵ never overstepping the other and gracefully cohabiting project conception and execution; this is true collaboration.

Any and all attempts by the American public education system to involve designers must abide by this creed. Ownership of projects must be reconsidered as a shared situation. The role of ‘communicator’ will best be seen as ‘collaborator.’ Furthermore, this author has experienced first hand the success that is often had when involved from the beginning and—conversely—the frustration and disappointment that comes otherwise.

- Legislate Progress Through Grant Restructuring

The National Endowment for the Arts was once targeted for elimination. By restructuring grants to focus on groups and organizations—and not individuals—the process of de-funding has been reversed. Looking forward if a policy were enacted to require networked, public domain access to grant-funded projects, an example could be set for others to build from and the public to benefit from. Though the smaller grants given to community organizations who work with disadvantaged and underprivileged persons are critical to maintain, some might be combined into national efforts.

- Standardize ‘What’

Previously discussed but worth repeating is the need for appropriate, rational debate of appropriate subject matter and the optimal time at which to deliver it. Expert testimony—without partisan, ideological intervention—must occur to establish standards on issues like sexuality, gender, identity, religion and science in the pursuit of a standardized national direction. States’ rights are a wise provision—but must never harm citizenry by furthering ignorance.

- Re-Envision Parents and Students as Stakeholders

Just as graphic design is instrumental in creating the (legally required) annual reports of publicly held companies, the public education system

could provide explanation beyond the simple terms of grades and percentiles. Efforts may be more appropriately spent on improving parent-teacher conferences and parental oversight, but regardless—better communication is needed and responsibility does not solely lie on teachers nor administrators.

One Critical Caveat

Thus far in the explosion of media and content, we have largely witnessed western culture's obsession with technology, celebrity and scandal as regurgitated and legitimized by the corporation-driven 24-hour news cycle and the problematic merging of editorial and objective content. A *true* age of information requires inclusion for all, independence of opinion and a greater global consensus through the wisdom of crowds.⁴⁶ Even the incorrect voices need to be heard.

Conclusion

There will be no NBC Universal, Inc. smash-hit *Queer Eye for the Western World*—divinely inspired creativity is a myth. Individuals must reclaim the public discourse from corporations who have conquered it through design. Furthermore, designers must refocus their efforts to those which benefit the common good, correcting wrongs and ensuring future successes for all. Compelling arguments must be put forth—using this author's previous recommendations, among others—for the incorporation of 'good design' in education. Lastly, the American public education system must be saved from privatization, be given adequate funds to procure design services and establish proper oversight of objective, expert panels that eschew partisan politics for rational thought.

This is no subversive, neo-liberal dogmatic decree but an optimistic plea for progress, recognizing the overwhelming arguments in support of the need for change and the potential for greater incorporation of liberal arts design principles into other fields of study. We must move from teaching technicians to teaching citizens.⁴⁷

Notes

1. This idea, while not an original thought of this author, is public domain much in the same sense of ‘the medium is the message’ (as originally authored in 1964). Furthermore, this position indemnifies this author from his failure to find the original source.
2. As said by Ronald Reagan in a Speech threatening to veto legislation that would raise taxes (March 13, 1985).
3. “List of Generations” Wikipedia. < http://en.wikipedia.org/w/index.php?title=List_of_generations&oldid=114398889> accessed March 11, 2007.
4. Klein, Naomi. NO LOGO. New York, NY: Picador, 2000.
5. L’Heureux, Conrad E. In and out of paradise : the book of Genesis from Adam and Eve to the Tower of Babel. Paulist Press, New York, NY, 1983.
6. “Modernity” Wikipedia, the Free Encyclopedia. <<http://en.wikipedia.org/w/index.php?title=Modernity&oldid=115857810>> accessed March 17, 2007.
7. “World War One” Wikipedia, the Free Encyclopedia. <http://en.wikipedia.org/w/index.php?title=World_War_I&oldid=115982633> accessed March 17, 2007.
“New Deal” Wikipedia, the Free Encyclopedia. <http://en.wikipedia.org/w/index.php?title=New_Deal&oldid=115980048> accessed March 17, 2007.
“University” Wikipedia, the Free Encyclopedia. <<http://en.wikipedia.org/w/index.php?title=University&oldid=115956853>> accessed March 17, 2007.
“Individualism” Wikipedia, the Free Encyclopedia. <<http://en.wikipedia.org/w/index.php?title=Individualism&oldid=115005128>> accessed March 17, 2007.
8. “Digest of Education Statistics, 2005” National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.
9. Moe, Terry. “A Union by Any Other Name.” Editorial. Education Next 3 (2001). Hoover Institution. 17 Feb. 2007 <<http://www.hoover.org/publications/ednext/3384186.html>>.
10. “Digest of Education Statistics, 2005” National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

11. Arnett, Jefferey Jenson, and Jennifer Lynn Tanner, eds. *Emerging Adults in America : Coming of Age in the 21st Century*. Decade of Behavior. Washington, D.C.: APA, 2006.
This term is noted because—at the time of writing—it is relatively new and appears to still face some criticism. Its use in this context does not provide support to either side of the argument but specifically supports the existence of definable cycles and periods in lives as seen in western culture.
12. Note that correlation does not always equal causation but the argument of ignorance as problematic is valid regardless.
13. This is in reference to Klein’s discussion of corporate marketing as being a ‘monologue.’
14. This is a common narrative method as seen in contemporary television police dramas, particularly in NBC’s “Law and Order” franchise (1990–present).
15. Race for the Cure® is a registered trademark of the Susan G. Komen Foundation and, while this author respects their legally established rights to it, he wholly disagrees with the pursuit of a cure rather than finding the culprit.
16. Klein, Naomi. *NO LOGO*. New York, NY: Picador, 2000. Page 87.
17. OUS FactBook 2004, Page 120.
18. UNICEF, Dimension 3, Page 19.
19. “The Nation’s Report Card Long-Term Trend.” National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.
20. Moss, David M., Wendy J. Glenn and Richard L. Schwab, eds. *Portrait of a Profession: Teaching and Teachers in the 21st Century*. Praeger, London. 2005.
21. “Visual Culture.” Wikipedia, the Free Encyclopedia. <http://en.wikipedia.org/w/index.php?title=Visual_culture&oldid=113720780> accessed March 17, 2007.
22. As written in the 1986 monograph “Iconology” by W. J. T. Mitchell, University of Chicago professor of English and Art History.

23. These statements reflect the course catalogs and degree requirements of their respective universities.
24. Moss, David M., Wendy J. Glenn and Richard L. Schwab, eds. *Portrait of a Profession: Teaching and Teachers in the 21st Century*. Praeger, London. 2005.
25. "Profile Of Teachers In The U.S. 2005" National Center for Education Information, 2005. <<http://www.ncei.com/POT05PRESSREL3.htm>> accessed March 17, 2007.
26. Proprietary systems commonly used in public education are Windows Operating Systems and Blackboard E-Learning systems, among others.
27. Lessig, Lawrence. "The Withering Of The Net: How D.C. Pathologies Are Undermining The Growth And Wealth Of The Net." The Center for American Progress. June 16, 2006 Lecture.
28. Marcum, James W. *After the Information Age: A Dynamic Learning Manifesto*. Vol. 231. *Counterpoints: Studies in the Postmodern Theory of Education*. New York, NY: Peter Lang, 2006.
29. Ibid.
30. As seen in Techno-Cultural/Political Science Fiction much like The Wachowski Brother's 1999 movie "The Matrix."
31. This has been the primary focus of various groups working in the realm of Civil Rights, Humanities and Social Justice—a movement commonly known by (and slandered as) 'political correctness.'
32. Klein, Naomi. *NO LOGO*. New York, NY: Picador, 2000. Page 394.
33. Most-notably, this method was represented by NASA's new creed for space exploration in their post-space shuttle years.
34. Munat, Charles F. "In defense of flame wars." Online posting. 22 Aug. 2001. WAI Guidelines Workgroup. 4 Mar. 2007 <<http://lists.w3.org/Archives/Public/w3c-wai-gl/2001JulSep/0699.html>>.
35. Bergman, Lowell. *Frontline: News War*. PBS, 2007.
36. Ibid.
37. Preston, Paschal. *Reshaping Communications*. Thousand Oaks, CA: Sage, 2001.

38. Viola, Bill. "The Voyage of No Return" lecture, March 15, 2007. Oregon State University.
39. Lehrer, Warren. Lecture, March 1, 2007. Oregon State University.
40. Harrison, Nate. "Video Explains the World's Most Important Six-Second Drum Loop" 2004. <<http://www.youtube.com/watch?v=5SaFTm2bcac>> accessed March 17, 2007.
41. Viola, Bill. "The Voyage of No Return" lecture, March 15, 2007. Oregon State University.
42. Bennis, Organizing Genius, 1997. Katzenbach, The Wisdom of Teams, 2005.
43. Klein, Naomi. NO LOGO. New York, NY: Picador, 2000. Pages 94–95. Schools must still teach "the basics" and must absolutely avoid exploiting their student bodies for callous marketing purposes, as has already been done for Snapple, Pepsi, Starburst, Burger King and—most notably—for Coca-Cola's 1998 appearance in an Evans, Georgia high school.
44. Bergman, Lowell. Frontline: News War. PBS, 2007.
45. Sowers, Robert. Rethinking the Forms of Visual Expression. Berkeley, CA: University of California, 1990, p. 91–102
46. Webster, Frank. Theories of the Information Society. Ed. John Urry. New York, NY: Routledge, 1995.
47. Robbins, Amanda. "Board of higher ed hears from OSU profs" The Daily Barometer, February 5, 2007. <<http://media.barometer.orst.edu/media/storage/paper854/news/2007/02/05/News/Board.Of.Higher.Ed.Hears.From.Osu.Profs-2696284-page2.shtml>> accessed March 17, 2007. This is an homage to the original statement of Geology Professor Steve Cook, Ph.D.

Definitions

- Accessibility**—a general term used to describe the degree to which a system is usable by as many people as possible (whether they have a disability or not)
- API**— a source code interface that a computer system or program library provides in order to support requests for services to be made of it by a computer program
- CMS**— a computer software system used to assist its users in the process of content management. CMS facilitates the organization, control, and publication of a large body of documents and other content, such as images and multimedia resources.
- Collaboration**—refers abstractly to all processes wherein people work together, applying both to the work of individuals as well as larger collectives and societies
- Creative Commons**—The Creative Commons licenses enable copyright holders to grant some or all of their rights to the public while retaining others through a variety of licensing and contract schemes including dedication to the public domain or open content licensing terms. The intention is to avoid the problems current copyright laws create for the sharing of information
- DIY**— questions the uniqueness of the expert’s expertise, and promotes the ability of the ordinary person to learn to do more than he or she thought was possible. Also pursues the desire for an economy of mutual aid and co-operation, the commitment to the non-commoditization of art, the appropriation of digital and communication technologies for free community purposes, and the commitment to alternative technologies such as biodiesel
- Fair Use**—a doctrine in United States copyright law that allows limited use of copyrighted material without requiring permission from the rights holders, such as use for scholarship or review. It provides for the legal, non-licensed citation or incorporation of copyrighted material in another author’s work under a four-factor balancing test
- Mashup**—music, website, or application that combines content from more than one source into an integrated experience

Open Source—The term is most commonly applied to the source code of software that is made available to the general public with either relaxed or non-existent intellectual property restrictions. This allows users to create user-generated software content through either incremental individual effort, or collaboration

Public Domain—comprises the body of knowledge and innovation (especially creative works such as writing, art, music, and inventions) in relation to which no person or other legal entity can establish or maintain proprietary interests within a particular legal jurisdiction

Separation of Presentation and Content—the concept of separation is based on the distinction between semantic content and aesthetic presentation. Each dimension should be flexible and independent. Changes in one aspect should not necessarily require changes to the other; defects in one aspect should not introduce defects in the other (see e.g., loose coupling)

Social Network—a social structure made of nodes which are generally individuals or organizations. It indicates the ways in which they are connected through various social familiarities ranging from casual acquaintance to close familial bonds

Standard—characterized by a high degree of technical maturity and by a generally held belief that the specified protocol or service provides significant benefit to the Internet community. Generally, Internet standards cover interoperability of systems on the internet through defining protocols, messages formats, schemas, and languages.

Wiki— a website that allows the visitors themselves to easily add, remove, and otherwise edit and change available content, typically without the need for registration

WYSIWYG—a user interface that allows the user to view something very similar to the end result while the document or image is being created. For example, a user can view on screen how a document will look when it is printed to paper or displayed in a Web browser. It implies the ability to modify the layout of a document without having to type or remember names of layout commands

Note: each definition is from its respective Wikipedia entry.

Figures

1. "National Trends in Reading by Percentiles. The Nation's Report Card Long-Term Trend." National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

Bibliography

Arnett, Jefferey Jenson, and Jennifer Lynn Tanner, eds. *Emerging Adults in America : Coming of Age in the 21st Century. Decade of Behavior.* Washington, D.C.: APA, 2006.

Associated Press. "States Grapple With College Textbook Prices" March 9, 2007. <<http://www.cnn.com/2007/EDUCATION/03/09/textbook.costs.ap/index.html>> accessed March 11, 2007.

Bennett, Audrey, ed. *Design Studies: Theory and Research in Graphic Design.* New York, NY: Princeton Architectural, 2006.

Bergman, Lowell. *Frontline: News War.* PBS, 2007.

Briggs, Amanda. "Macro Trends" Video Series, Nike. 2007.

Dang, Shirley. "Achievement Scores Fall as Grades Climb" Associated Press, February 23, 2007. <http://origin.insidebayarea.com/dailyreview/localnews/ci_5287916> accessed March 17, 2007.

"Digest of Education Statistics, 2005." National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

"Dimension 3: Educational Well-Being." *Child Poverty In Perspective: An Overview of Child Well-Being in Rich Countries.* N.p.: UNICEF, n.d. 18-21. UNICEF State of the Children 2007. 2007. UNICEF. 17 Jan. 2007 <<http://unicef.org/sowc07/>>.

Frauenfelder, Mark, ed. *Boing Boing: A Directory of Wonderful Things.* <<http://boingboing.net>>.

Goleman, Daniel. "Flame First, Think Later: New Clues to E-Mail Misbehavior" *The New York Times*, February 20, 2007. <<http://www.nytimes.com/2007/02/20/health/psychology/20essa.html?ex=1174276800&en=2d5257404923a352&ei=5070>> accessed February 21, 2007.

Grossman, Lev. "Time's Person of the Year: You" *Time Magazine*, December 13, 2006. <<http://www.time.com/time/magazine/article/0,9171,1569514,00.html>> Accessed February 6, 2007.

- Harrison, Nate. "Video Explains the World's Most Important Six-Second Drum Loop" 2004. <<http://www.youtube.com/watch?v=5SaFTm2bcac>> accessed March 17, 2007.
- Heller, Steven, and Véronique Vienne, eds. *Citizen Designer*. New York, NY: Allworth, 2003.
- "Individualism" Wikipedia, the Free Encyclopedia. <<http://en.wikipedia.org/w/index.php?title=Individualism&oldid=115005128>> accessed March 17, 2007.
- "Industrial Revolution." Wikipedia, The Free Encyclopedia. <http://en.wikipedia.org/w/index.php?title=Industrial_Revolution&oldid=115371846> accessed March 17, 2007.
- "Interactive Annual 11: Self-Promotion." *Communication Arts* (2005): 136-59.
- "Interactive Annual 12: Information." *Communication Arts* (2006): 128-47.
- "Jackass" Viacom TV Series, 2000–2002.
- Jones-Garmil, Katherine, ed. *The Wired Museum*. Washington, D.C.: American Association of Museums, 1997.
- Klein, Naomi. *NO LOGO*. New York, NY: Picador, 2000.
- Kolakowski, Nick. "Listen and Learn With Podcasts" *Washington Post*, February 25, 2007. <<http://www.washingtonpost.com/wp-dyn/content/article/2007/02/22/AR2007022201591.html>> accessed March 5, 2007.
- Kozinski, Alex. "White v. Samsung Electronics Dissent" United States Court Of Appeals For The Ninth Circuit, No. 90-55840, March 18, 1993. <<http://notabug.com/kozinski/whitedissent>> accessed March 17, 2007.
- L'Heureux, Conrad E. *In and out of paradise : the book of Genesis from Adam and Eve to the Tower of Babel*. New York : Paulist Press, c1983.
- Lehrer, Warren. Lecture, March 1, 2007. Oregon State University.
- Lessig, Lawrence. "The Withering Of The Net: How D.C. Pathologies Are Undermining The Growth And Wealth Of The Net." *The Center for American Progress*. June 16, 2006 Lecture.

“List of Generations” Wikipedia, the Free Encyclopedia. <http://en.wikipedia.org/w/index.php?title=List_of_generations&oldid=114398889> accessed March 11, 2007.

Marcum, James W. *After the Information Age: A Dynamic Learning Manifesto*. Vol. 231. *Counterpoints: Studies in the Postmodern Theory of Education*. New York, NY: Peter Lang, 2006.

Metafilter | Community Weblog. Metafilter Network, LLC. <<http://metafilter.com>>

“Modernity” Wikipedia, the Free Encyclopedia. <<http://en.wikipedia.org/w/index.php?title=Modernity&oldid=115857810>> accessed March 17, 2007.

Moe, Terry. “A Union by Any Other Name.” Editorial. *Education Next* 3 (2001). Hoover Institution. 17 Feb. 2007 <<http://www.hoover.org/publications/ednext/3384186.html>>.

Moss, David M., Wendy J. Glenn and Richard L. Schwab, eds. *Portrait of a Profession: Teaching and Teachers in the 21st Century*. Praeger, London. 2005.

Munat, Charles F. “In defense of flame wars.” Online posting. 22 Aug. 2001. WAI Guidelines Workgroup. 4 Mar. 2007 <<http://lists.w3.org/Archives/Public/w3c-wai-gl/2001JulSep/0699.html>>.

“The Nation’s Report Card 2005.” National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

“The Nation’s Report Card Long-Term Trend.” National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

“New Deal” Wikipedia, the Free Encyclopedia. <http://en.wikipedia.org/w/index.php?title=New_Deal&oldid=115980048> accessed March 17, 2007.

Nielsen, Elizabeth. Senior Staff Archivist, Oregon State University Archives. Oral interview, January 2007.

“Oregon University System Facilities.” Oregon University System 2004 FactBook. 2004. Oregon University System FactBook. N.p.: Oregon

- University System, n.d. 120. 17 Feb. 2007 <http://www.ous.edu/dept/ir/reports/fact_book_2004/index.php>.
- Preston, Paschal. *Reshaping Communications*. Thousand Oaks, CA: Sage, 2001.
- “Profile Of Teachers In The U.S. 2005” National Center for Education Information, 2005. <<http://www.ncei.com/POT05PRESSREL3.htm>> accessed March 17, 2007.
- Robbins, Amanda. “Board of higher ed hears from OSU profs” *The Daily Barometer*, February 5, 2007. <<http://media.barometer.orst.edu/media/storage/paper854/news/2007/02/05/News/Board.Of.Higher.Ed.Hears.From.Osu.Profs-2696284-page2.shtml>> accessed March 17, 2007.
- “Sampler (Musical Instrument)” Wikipedia, the Free Encyclopedia. <http://en.wikipedia.org/w/index.php?title=Sampler_%28musical_instrument%29&oldid=113479096> accessed March 17, 2007.
- Sherman, Tom. “Beyond the Beyond.” *WIRED Blogs*. *WIRED Magazine*. 28 Jan. 2007 <http://blog.wired.com/sterling/2007/01/vernacular_vide.html>.
- Sowers, Robert. *Rethinking the Forms of Visual Expression*. Berkeley, CA: University of California, 1990.
- “University” Wikipedia, the Free Encyclopedia. <<http://en.wikipedia.org/w/index.php?title=University&oldid=115956853>> accessed March 17, 2007.
- Viola, Bill. “The Voyage of No Return” lecture, March 15, 2007. Oregon State University.
- “Visual Culture.” Wikipedia, the Free Encyclopedia. <http://en.wikipedia.org/w/index.php?title=Visual_culture&oldid=113720780> accessed March 17, 2007.
- Wachowski, Andy and Larry Wachowski. “The Matrix” Warner Bros. Entertainment, Inc. 1999.
- Warrip-Fruin, Noah, and Nick Montfort, eds. *The New Media Reader*. Cambridge, MA: MIT, 2003.

- Webster, Frank. *Theories of the Information Society*. Ed. John Urry. New York, NY: Routledge, 1995.
- Weir, Rob. "Teaching Without Textbooks" *Inside Higher Ed*, March 6, 2007. <<http://insidehighered.com/views/2007/03/06/weir>> accessed March 17, 2007.
- Wesch, Michael. "The Machine is Us/ing Us." YouTube. March 8, 2007. <http://youtube.com/watch?v=NLlGopyXT_g>
- Wolf, Dick. "Law and Order (Franchise)" TV Series, NBC Universal, Inc.
- "World War One" Wikipedia, the Free Encyclopedia. <http://en.wikipedia.org/w/index.php?title=World_War_I&oldid=115982633> accessed March 17, 2007.