

School, or Education?

by Nitin Gadia

"I never let school get in the way of my education."

– Mark Twain, American Author

–

Abstract

Many people have demonstrated that the modern school, regardless of the quality, may not be the most optimal medium through which one can receive the most effective education. The common assumption that the modern school is synonymous with the benefits of the modern world can through examples in the past and present be shown to only be correlated, in fact often greatly hindering it. The modern school developed for a variety of intentions, and often the purpose of mass-obedience and institutionalization has taken precedence over providing the means for empowerment. These hidden purposes have perpetuated themselves in the form and function of the way the modern school is built and administered all around the world today.

Through observing the inherent problems of school, and how the most effective learning works, people around the world have begun to create highly successful alternatives that are growing rapidly. The alternative movements typically take the form of small, local support groups that are networked regionally and often globally. Given that the modern school is deeply ingrained in modern society, these alternative networks have worked to provide resources and open and widen paths towards certification and legitimization in a wider context. Often some of the benefits of the modern school are incorporated as a part of a community-based education, while movements have also sought to reform the modern school as it stands. The combination of these new varieties of mostly small, local systems of education movements, combined with the power of communication technologies that are increasingly available, may fundamentally change the way people are educated, making the modern school obsolete and irrelevant.

Note on Author

Nitin Gadia is a person of Indian origin who grew up in the United States. He lives in the state of Iowa, with a population of 2 million, in the city of Ames, with a population of 50,000. He visited India in the Winter of 2008-09, where he began research on alternative education movements. This paper is the result of his research, and mainly focuses on movements in India and the United States.

For any comments or questions, please email:
nittyjee@gmail.com

The Pile Ahead

When looking at the problems of education, it is like a student looking at a pile of books for the year ahead, daunting and discouraging. But when the student looks at the work one day at a time, it becomes manageable. While India has made tremendous progress chipping away, year after year, in improving education, everyone knows that the work has only begun. Using the most common indicator, while literacy rates have gone from 14% to 65% today, that is still far from complete. Today, over half of rural 10 year old children can't read above a basic level or do basic division¹. Yet more than gaining the knowledge one needs to be considered educated, work needs to be done to provide the tools and lay the foundation from which people can learn. Though their salaries are five times higher than their private sector counterparts, public school teacher attendance rates are dismal, with an average of 25% teachers being absent, and as many as 71% in states like Bihar². Half of students drop out of school by the age of 14,² and over 60% of adolescents do not attend secondary school³. While schools are now providing uniforms and lunches, many children come simply for free clothes and a free meal, and do not attend classes.

Self-Direction

Responding to the needs that government education has not provided them, people have day by day taken matters into their own hands. A great deal has been done in recent years, much of which has been quite innovative. While government funding has tripled each decade from the 1980s⁴, people have been building privately funded institutions that are both via tuition and open to the public, and provide higher quality education at a fraction of the cost of many government schools². A few have innovated much further, going far beyond orthodox modern schooling, or sidestepping it entirely. With certification outlets such as Open Schools, among other options available, many have organized and educated themselves outside of schools and predominant modern pedagogies. Many choose to educate outside of school because they find the quality of education in schools unacceptable, while others, mostly of an elite social status, have their children educated outside of school even when good schools are available to them, and they can provide better education through private tutoring. Some go as far as to consider the modern school to be an inherent failure in providing the most optimal education, and have chosen to educate their children in a community setting. Outside of the urban elite and among the majority of Indians for whom school is seen as conflicting with their livelihood, some have sought an alternative education that is empowering while being within their context. Given the fact that these methods have often been very successful with less resources involved, they need to be examined, and the assumptions held by modern pedagogy need to be reexamined.

Education Without School

Without classrooms and schools that need to be built, maintained, and functional, with full-time teachers, people are demonstrating that less may in fact be more. In a slum in Kalkaji, Delhi, Sugata Mitra of NIIT tested his idea that children can learn with little guidance⁵. He installed a computer into a wall, much like an ATM machine, and placed a hidden video camera to record what would happen. Within moments, a teenager came and started to use it. He apparently later said, "I have never seen a

1 *A special report on India: Creaking, groaning: Infrastructure is India's biggest handicap.* The Economist. 2008.

http://www.economist.com/specialreports/displaystory.cfm?story_id=12749787.

2 Kremer etc. (2004), *Teacher Absence in India: A Snapshot*, Journal of the European Economic Association.

3 *Education in India.* World Bank.

4 [Ayyar, Vaidyantha. *Educational Planning and Administration in India : Retrospect and Prospect.* Journal for Education Planning and Administration, Vol. VII, Number 2, NHIEPA. New Delhi.

5 Mitra, Sugata. *Can Kids Teach Themselves?* Lift Conference 2007.

<http://www.ted.com/index.php/talks/sugata_mitra_shows_how_kids_teach_themselves.html>

television where you can *do* something”, indicating that he had never seen a computer before. Within a short period of time, him and his friends were showing each other how to browse the internet. To give it a true test, Mitra and a team installed a computer into a wall in Madantusi, a village in Uttar Pradesh, where no one had ever seen a computer nor did anyone speak English. He intentionally left it without it being monitored. Within a short period of time, children taught other children, and often dozens of children would be shouting over each other at once, usually the youngest ones teaching the older ones. When Mitra came back a few months later, they had learned a great deal of English, and when he asked them how they liked the machine, one said in a combination of Hindi and English, “It needs a better mouse and a new processor.” The experiment showed that children can learn how to use computers and draw knowledge from it like they can learn language, something that parents who have computers often observe in their own households. This method of learning, of a sort of self-pedagogy, was dubbed by Mitra *Minimally Invasive Education* (MIE), based on the principles that kids learn for themselves and from each other. The experiment's success brought out a company called Hole-in-the-Wall Ltd. (Hiwel), which designs *learning stations* and pedagogies and methodologies around them, placing them all over India and around the world.⁶



a learning station in Ladakh, Kashmir

The Hole-in-the-Wall experiment is not unique in demonstrating many aspects of modern schooling that are considered ineffective. Many feel that the modern school is in fact deeply counterintuitive to learning. The aspects people cite are common. While people learn a great deal through conversation, children in school are told not to talk to each other. In fact, though people are most productive when working together, children are made to work alone and in competition with each other. While people also learn through observation and experience, children are made to sit in rooms and buildings with bare walls. Children don't learn to do things by doing them, they learn the theories years before they will, if ever, be applied. While people learn through fluid connections, classes and times are devoted to separate subjects, and children are made to go from one subject to the next at regular intervals. While people learn from a diversity of age groups, and in fact need to be able to relate to people of all ages, classes and schools are age-segregated. Rather than learn how to learn, children are given what they are to learn through rote memorization. Rather than learn to think, children are through artificial communication given simple questions that the teacher already knows the answer to. John Gatto, voted Teacher of the Year in New York, United States, eventually left the modern school out of frustration, saying that rather than teaching his subject, he taught kids an institution. As he put it in his essay *The Seven Lesson Schoolteacher*, “I don't teach English, I teach school”, after which he lists seven lessons: *confusion, class position, indifference, emotional dependency, intellectual dependency, provisional self-esteem, and one can't hide*.¹⁴

Correlation, Not Causation

Despite that the modern school and many modern pedagogical methods seem so fundamentally flawed, it is remarkable that they are replete throughout the modern world. While it appears that the benefits of the modern world go hand in hand with the modern school, historical evidence shows that in many cases that was only a correlation.

The modern school arose out of the needs of modern industry and state authority, and spread far and wide with industrialization, nationalism and colonization. In India, the modern school was initially imposed for the needs and ideologies of colonization, which many claim to have had disastrous

6 Hole-in-the-Wall Ltd <<http://www.hole-in-the-wall.com>>

consequences on the more effective indigenous education system. During the freedom struggle in 1931, Gandhi made the following remark at the Chatham House in London⁷ :

... I say without fear of my figures being challenged successfully, that today India is more illiterate than it was fifty or a hundred years ago, and so is Burma, because the British administrators, when they came to India, instead of taking hold of things as they were, began to root them out. They scratched the soil and began to look at the root, and left the root like that, and the beautiful tree perished. The village schools were not good enough for the British administrator, so he came out with his programme. Every school must have so much paraphernalia, building, and so forth. Well, there were no such schools at all. There are statistics left by a British administrator which show that, in places where they have carried out a survey, ancient schools have gone by the board, because there was no recognition for these schools, and the schools established after the European pattern were too expensive for the people, and therefore they could not possibly overtake the thing. I defy anybody to fulfill a programme of compulsory primary education of these masses inside of a century. This very poor country of mine is ill able to sustain such an expensive method of education. Our state would revive the old village schoolmaster and dot every village with a school both for boys and girls.

Dharampal did a study later, and found reports from early British India saying, “There seems to be hardly a village, great or small, throughout our territories in which there is not at least one school, and in larger villages more”, along with statistics of people being educated across all castes, with books of a variety of subjects and disciplines as deep and thorough as what was being taught in British schools of higher education. When the British system was imposed, it did not mix with the social culture, and only higher castes were educated, stratifying Indian society far more than it otherwise would have been.¹⁵ Others claim that Dharampal's work is flawed, as it uses incomplete and erroneous data, and literacy was confined to higher caste men, a fact that only continued in British India.⁸ Nonetheless, further historical evidence has shown, and people today are demonstrating that the modern school is not the only way to educate and in fact it does not always educate the most effectively.

Though the context and circumstances the modern school was built varies throughout the world, it is extraordinarily similar in its structure and methods. The effects of the modern school can thus to a great degree be observed and compared wherever it was created, despite the differences in environments. In the United States, during the late American colonial era, there are strong indications that complex literacy among the White population was near 100%.⁹ Thomas Paine's *Common Sense*, a pamphlet of complex new ideas on governance was highly influential in the revolution against Britain, and sold 600,000 copies to a population of 2.5 million, 20% of whom were slaves, and another 50% indentured servants.¹⁰ Gatto claims that it takes 100 hours to learn to read and write, and it just takes someone to guide the individual when they are willing¹². Entire societies learned to read this way, while reading and writing is taught through the medium of schools by force and at will over several years.

In the twentieth century, the United States fought a few large wars in which there was a mandatory draft, in which all young men were subject to a random selection for service. In order to be

7 Dharampal. *The Beautiful Tree: Indigenous Indian Education in the Eighteenth Century*.

8 P. Radhakrishnan. *Dharampal and The Beautiful Tree*. SikhSpectrum.com Quarterly. 2007
<<http://www.sikhspectrum.com/112007/dharampal.htm>>

9 Henretta, James. *Life in Colonial America*. Encarta Encyclopedia. Microsoft, 2008.

10 Gatto, John. “The Seven-Lesson Schoolteacher”. *Dumbing Us Down: The Hidden Curriculum of Compulsory Schooling*. New Society Publishers, 1991.

deemed qualified to go to war, a literacy test was given that determined the minimal level of competency necessary for war. The results of such a test over the course of the century would determine the level of literacy among the male population in the United States. When World War II began, 96% of the mandatory draftees passed the literacy test, which required a minimum fourth grade proficiency. Yet six years after World War II, only 81% of the draftees passed the same test. When the Defense Department hired hundreds of psychologists to determine how so many faked the tests, it was indicated that they hadn't. Still nothing was done, and when the Vietnam War came, the number of young men who passed the test dropped to 73%.¹¹ It was determined that the culprit was that rather than reading being taught by the natural intuitive method of sounding out words as combinations of letters phonetically, official pedagogy mandated that children learn whole words at once as images and repeat them over and over through rote memorization. This began with the onset of compulsory schooling in America, and only changed towards the end of the Twentieth Century, but has left its mark since.

While the previous phonics method was not considered to be an inherent fault of school, many feel that it is only one example of how misguided pedagogy was carried out and allowed to perpetuate uniformly by a state education policy. When pedagogical methods are applied so widely, the whole system becomes liable to any flaws. While the modern school has certainly produced desirable effects, having providing the means for greater empowerment for many, the flaws in the decades of mass schooling have left schools all across the modern world with a mixture of methods with varying effectiveness.

Some pedagogies, such as the flawed phonetic method, were able to change over time, while other aspects of the modern school are more deeply ingrained, and would require changes far more radical, often in opposition to the fundamental nature of the modern school. The very structure of school buildings consist of separate classrooms to segregate subjects and ages, with chairs in rows facing teachers that are a part of a fixed administrative hierarchy. If there are major changes to the structure of the modern school that people find to be more conducive to learning, it is not uncommon for their to be a backlash from administrators, colleagues, parents and the state, as the whole notion of the modern school is based on a certain pedagogy and a certain hierarchy that is predicated on a certain structure. Thus the only option that is provided is a classroom that is found to be physically dominating, as students, teachers and learning are all confined within it, and in a certain arrangement that many feel provides little possibility for learning.

HISTORY LESSON

The hour has struck and the teacher has entered, but the heated discussion among the pupils continues unabated ... Two pupils in this class at the Geneva High School are Spanish. The previous night, General Franco had ordered the execution of three Basque opponents, causing reactions throughout the world. The pupils turn to the teacher, ask his opinion, his help in understanding the situation better ... "Stop talking now and let's start the history lesson..." was his reply.

excerpt from anti-school literature



teaching and learning are provisional

11 Gatto, John. *The Underground History of American Education: A School Teacher's Intimate Investigation Into the Problem of Modern Schooling*. Oxford Village Press, 2000.

Available online: <<http://www.johntaylorgatto.com/underground/index.htm>>

Shorter summary:

Metzger, Richard. Kick, Russ. *Everything You Know Is Wrong: The Disinformation Guide to Secrets and Lies*. 2003.

<<http://www.spinninglobe.net/lessons.htm>>

The self-perpetuating nature of the modern school reaches far beyond its walls. The entire means – the infrastructure, the materials, and the certification necessarily for later in life, is primarily provided by the modern school. The institution is replete throughout society during most of the formative years of everyone's development, especially the classes of society considered to be successful. It is thus difficult for people to consider there being an alternative, and children and their parents will do everything they can to make them succeed within the system, in order to gain a legitimate stake in society.

The Development of the Modern School

To understand why the modern school is so successful, though it is so fundamentally flawed, it is always useful to look at it from a historical perspective. Over the course of the global integration experienced through industrialization and trade, and state control and imperialism, the modern school arose as the institution through which one receives legitimization. Whatever benefits this integration has had, and whatever benefits are gained through the modern school, the modern school carries the legacy of past intentions, and are in many ways built to perpetuate them.

The school is certainly not a new institution, and was created in a variety of places that often fit their function well. The precursors to the modern school were meant for people with a certain role in society, often of an elite social status. Common across many cultures, in Europe the theocratic classes, mostly the clergy, were the ones who interpreted and transmitted knowledge, in the context of an artificial environment.¹² This may have fit the form of their study well, as the primary subjects of study were Latin and theology. Schools provided the literary infrastructure and were centers of the power structure in Europe, so as Europe transformed into a more layered upper class of landholding nobility and then the bourgeoisie (middle classes), they utilized the school as well. These schools were much different from the later modern school, as they were in a variety of pedagogies and environments. At the time Europeans began interacted with India, society was similar. Communities mostly consisting of Brahmins held a role in society of learning and transmitting Sanskrit and higher theology, and a variety of other subjects, and schools were attached to temples or learning was done under trees, given the perennially warm climate. As Dharampal's work indicates, people were educated across a variety of jatis. Given the nature of Indian society as specialized by caste, learning was highly based on the profession. In fact, Gatto claims that some of the modern school owes to the observation of the effectiveness of the *purposeful* nature of Indian schooling as observed by early European traders, in that people were educated based on caste, an idea which may have in part been applied to schools in the early modern Western world, based on class.¹³

With the onset of industrialization, as a large working



the school of the clergy



a French comic about segregation of the rich and poor through public schools

¹² *Danger: School!* Other India Press, 2007.

¹³ Note: While the source of Gatto's account may be correct, much of his analysis is highly flawed, as it is based on erroneous history and a misunderstanding of the caste system. For reference, see footnote 11

class developed, separated from their children in the traditional form of education, large schools were created, one for the rich and one for the poor. Large numbers of people needed to be regulated in some way. The modern compulsory school began in Prussia, a nation that is now a part of Germany.¹⁴ While Prussia was constantly at war, there was also a great deal of class strife. Thus the state and industry developed compulsory schools whose purpose was to create a mass obedient society. After the Seven Years War, king Frederick II passed the General Land School Regulation in 1763, mandating that all children ages 5 to 13 attend compulsory public schools. As the Industrial Revolution spread over the following decades, schools built along the Prussian model began appearing across Europe and America, experimenting with and trading pedagogical ideas and concepts.

The extraordinary similarity of schools across the modern world, whether in India or Britain, owes itself to the needs of the modern global economy, which carries the legacy of state control and social stratification. In India, the modern school was imposed for the purposes of imposing both the cultural superiority of the imperialists and to fulfill the needs of colonial economic and administrative control. To gain legitimacy in British India, one had to go through the schools, and other systems of education were delegitimized. While much of the purpose of schools changed when India became independent, this left a damaging legacy that continues to this day with modern schools across India, the descendant of the colonial education system. To this day, the preconceived notion continues that any indigenous or alternative system of education is inferior. In fact, the modern school is based on what many find to be outdated and flawed ideologies, the effects of it continue to be self-perpetuated.

The colonial education system in India began with Thomas Macaulay's *Minutes on Education* in 1835, where he said, "All parties seem to be agreed on one point, that the dialects commonly spoken among the natives of this part of India contain neither literary or scientific information, and are, moreover so poor and rude that, until they are enriched from some other quarter, it will not be easy to translate any valuable work into them. It seems to be admitted on all sides that the intellectual improvement of those classes of the people who have the means of pursuing higher studies can at present be effected only by means of some language not vernacular amongst them." Offering his opinion of what language should be used as a medium of instruction, he said, "I have no knowledge of either Sanskrit or Arabic. But I have done what I could to form a correct estimate of their value. I have read translations of the most celebrated Arabic and Sanskrit works. I have conversed both here and at home with men distinguished by their proficiency in the Eastern tongues. I am quite ready to take the Oriental learning at the valuation of the Orientalists themselves. I have never found one among them who could deny that a single shelf of a good European library was worth the whole native literature of India and Arabia. The intrinsic superiority of the Western literature is, indeed, fully admitted by those members of the Committee who support the Oriental plan of education."¹⁵

In the United States, compulsory schooling began in the state of Massachusetts, promoted by a small but active base of bureaucrats, industrialists, and churches, and was met with great hostility by the population at large, which felt it was being deprived of its culture of self-dependence. In one incident in 1859, a teacher was locked in a schoolhouse while children "threw mud and mire into his face and over his clothes" while parents encouraged them.¹⁵ Later in another part of the state, a teacher was attacked, according to his replacement, to the effect that his "head, face and body was ... pounded literally to jelly." Yet for a variety of reasons, wide acceptance grew while the state government continued to enforce compulsory schools, and in the last part of Massachusetts to hold out, children were marched to school by the state militia. With the onset of the Gilded Age in the late 1800s and on into the early 1900s, compulsory education was promoted nationwide and wholesale, as the dominant white population felt that the enormous numbers of immigrants needed to be quickly

14 Cubberly, Ellwood. *A Brief History of Education*. Houghton Mifflin, 1922.

15 *Lord Macaulay's Minutes on Education*. 1835.

assimilated into the hegemonic American culture, and industrialists felt that the population needed to fit the needs of mass production.

Over time, as the modern school monopolized the means of empowerment and legitimization, people sought to reform the system itself, making it more equitable and widely available. In Europe, over time the lower classes clamored for the integration of schools, and the strict separation of rich and poor schools was abolished. Throughout the history of the modern world, the modern school has been used as a way of segregating society, and likewise a means of making it equitable, through class, caste and race. In the United States, the vision of the ideal modern school is commonly called *The Great Equalizer*. The way that schools provided equitable means of achievement was through introducing the process of selection for later studies in the form of grades. However, this often had deeper intentions, as it was used to create a hierarchy. The system itself was used as a tool of producing desired results for the optimal industrial economy. Across the world, industrialists funded schools and education programs for the ideologies that they considered to be for the greater good. Professional pedagogues were employed by philanthropic organizations for the purposes of mass utopian social engineering. William Torrey Harris, who served as the Federal Commissioner of Education of the United States wrote in 1906, “Ninety-nine [students] out of a hundred are automata, careful to walk in prescribed paths, careful to follow the prescribed custom. This is not an accident but the result of substantial education, which, scientifically defined, is the subsumption of the individual.¹¹”

An outline of the function of school was written clearly in the eyes of Alexander Inglis, who wrote in his *Principles of Secondary Education* six functions of school¹¹:

- (1) *Adjustive, or adaptive* – establish fixed habits in reaction to authority
- (2) *Integrating* – children are to conform to one another, making them more alike
- (3) *Diagnostic and directive* – determining students proper social role, as produced in cumulative records
- (4) *Differentiating* – as social roles are ascribed, children are sorted and each is trained as far as needed within their roles
- (5) *Selective* – Students that are marked with bad grades, remediation and punishments are deemed by their peers undesirable for natural selection
- (6) *Propaedeutic* – A small group of children will be selected and trained for the purpose of managing the system.

The extreme aspects of the modern school, like any institution, were not simply a part of a grand conspiracy, rather, different aspects of school were added to and subtracted by people with a variety of intentions, leaving an institution ingrained in its form a variety of functions that have perpetuated throughout the world to this day. There were the psychologists, social engineers, industrialists, racists, imperialists, nationalists, politicians and pedagogists, common citizens, and the participants of the system who did everything they could to succeed within it.

While many of the philosophies behind the pedagogies of the past were often of an extreme position, and many of the motives died long ago, they built the system that remained. Year after year the modern school was built as the means of education, and is now understood as synonymous with learning. While school is far removed from many of its original intentions, the effects of those intentions remain, in forms and their functions that were built to self-perpetuate. The buildings, the walls, the classrooms, the chairs, the subject separation, age segregation, linear progression, competitive grading, the indicative testing, the administrative hierarchy and the teachers and their training, were created for many ends which continue to be produced. Many thus feel that while learning can be carried out in the modern school, many find it to be neither necessary nor useful, and as long as education is carried out within the modern school, it will always be handicapped.

Schools of Thought

In an ever changing world, styles of education are constantly evolving and being traded. Just as pedagogical ideas were traded around the world in the development of the modern school, ideas will continue to be traded as people react to its flaws and produce systems more desirable for their needs. People all over the world are succeeding in actively creating efforts towards an education outside of the modern school. Typically such efforts are more community-based and individualized, rather than based on state and school policies and large numbers of students in classroom settings. As such efforts remain small, philosophies vary greatly, and any flaws are not replicated widely. Rather, people form networks of groups that actively experiment and share their experiences with each other.

In modern, mostly urban India, there are growing networks of families and communities that are actively engaged in developing alternatives. Multiworld, a network of people from a diverse set of disciplines and lifestyles, have organized conferences and provided resources and a means of communication for people active in finding alternatives to the modern school.¹⁶ As the name of the organization is meant to imply, Multiworld is dedicated to the idea that there are a wide variety of methods, each of which have flaws and advantages, and should be applied in appropriate circumstances, in the context of local cultures, and further individualized to individual temperaments.

The interaction has even become global in its reach. While the network and its most active participants are based in India, it includes people from all over the world, and has even started a branch in the United States. There, alternative education movements are growing rapidly. In the United States, education outside of school, usually called “homeschooling” was almost nonexistent in 1970, with 15,000 students, and increased gradually to nearly 500,000 in 1990. By 2003 the number had reached 1.1 million, and now estimates are upwards of 2.5 million.¹⁷ Parents cite a wide variety of reasons for choosing to have their children educated in their homes and communities. A third of parents cite religion a reason, while most others choose to educate at home because they object to the quality of schools and their methods of education, or because their kids require special attention. Most parents cite several reasons. John Desaulniers, a homeschooling father of four, said that when he put his oldest son into a private Christian school, he was victim to the same social hierarchy, and would still get picked on and beaten up on the way home from school, just as he had been treated when he was growing up.¹⁸

As the modern school is so ingrained in the modern world, people naturally have reservations towards such a drastic change in something as important as education. One of the first reservations people have about homeschooling is that parents are among the worst teachers, and take liberty to be much more controlling of their children than their teachers, forcing them to study, yelling at them when they get answers wrong, or punishing them when they perform poorly. While on the one hand a community's love can provide resources necessary for education, there is the danger that the fear of losing or in any way depriving those that are loved turns to controlling and mollycoddling. In fact, few things have perpetuated the modern school more than armies of parents scared to death of anything that will not provide a secure future for their children.

Yet, as Gatto puts it, when people are left to their whims, and accountable to themselves, they will self-educate. Parents and homeschooling communities quickly learn what does and does not work, and a culture develops around philosophies and principles of what is a good education. The results of homeschooling have been quite positive. Though their parents are more likely to have a higher level of educational attainment, homeschoolers of families across all incomes, races and education levels consistently achieve higher in reading and math and are involved in activities at higher rates than their

16 Multiworld. <<http://www.multiworld.org>>

17 Kurt J. Bauman. *Home-Schooling in the United States: Trends and Characteristics*. U.S. Census Bureau. August 2001.

18 Gadia, Nitin. *School, or Education? The Power of Alternative Learning*. Ames Progressive. November, 2008.

peers in public schools.¹⁹ While the majority of people in American society have been very opposed to homeschooling in the past, the attitude is changing rapidly as people are seeing homeschoolers that turn out fine or are often many years ahead of their peers out of modern schools. According to a Gallup Poll, in 1985, 73% of respondents disapproved of homeschooling, while 16% approved, while in 2001 54% disapproved and 41% approved.²⁰

Multiworld evolved out of dialogues in Penang, Malaysia between people from all over the world concerned with the dominance of Eurocentrism, and is now a decentralized network working towards creating curricula, methods, opportunities, and lifestyles in parallel with the dominant pedagogies and economic systems that assert themselves as universal.²¹ Multiworld is a loosely organized network that has three main branches. On the curriculum end is Multiversity, consisting of several world-renowned scholars in diverse fields of study, from education to science to law to the arts. The common feeling among participants of Multiversity is that while colonists may have left their subjects, they left an education system that continues to delegitimize their traditions, and thus peoples formerly colonized politically and economically remain with colonized minds. As Gandhi said, “It is not about getting rid of the tiger and keeping the tiger's nature.” A conference is held every so often as the participants trade and build ideas that are then practiced in their context. Taleemnet is a homeschooling network that provides information and guides people in education outside the modern school, and is increasingly engaged in developing and strengthening alternative paths. Lastly, as many people involved in Multiworld are engaged in developing all-around self-reliance, there is the Natural Farming Institute, which shares local agricultural methods and resources outside modern methods and industries.

In local homeschooling communities, it is common for people to form local support groups, and connect with each other through meetings, the internet, and educational practices. In the United States, in the small state of Iowa alone, with two million people, there are many organizations and networks that are highly organized. The Network of Iowa Christian Home Educators (NICHE) serves hundreds of local support groups across the state in a variety of ways, with everything from legal assistance to sharing curriculum ideas, and forms a lobbying group to protect the homeschooling community. NICHE holds a 2 day conference every June with around 2000 attendees, 80 workshops, and 100 exhibitors. There are homeschooling networks on the national scale, which hold their own athletic, music, and academic events. Patrick Henry College is the first college dedicated to the Christian homeschooling community, and is nationally accredited.

Despite it seeming daunting to educate outside of school, Gatto says, “Now for the good news. Once you understand the logic behind modern schooling, its tricks and traps are fairly easy to avoid.” Through active experimentation, trial and error, homeschooling parents, communities and pupils have found effective means and methods of self-education. Rather than have curriculum delivered to them, homeschoolers can choose what they need to learn, as well as the self-motivation to learn it. Beyond the more independent curriculum, homeschooling avoids the limitations of a one-size-fits-all regimentation. It is common for homeschooling parents to work with their children’s preferences and temperaments. As parents, Desaulniers says that while they “move from teachers to facilitators,” they also allow adjustments by “being eclectic.”²⁰ While his daughter likes to learn from books, his son likes to learn from computers. One is focused at night, and the other is an early riser, and their family lives work accordingly. Learning is often built into their lives in an organic manner, and not separated by

19 Ray, Brian. *Strengths of Their Own - Home Schoolers Across America: Academic Achievement, Family Characteristics, and Longitudinal Traits*. National Home Education Research Institute. Salem, OR. 1997. <www.nheri.org>.

20 “Trends and Issues: School Choice”. Clearinghouse on Educational Policy and Management. <http://eric.uoregon.edu/trends_issues/choice/home_schooling.html>

21 *Multiversity*. Other India Press, 2004.

classrooms, and based more on experience and action rather than homework and theory.

Homeschooling is a limiting term in that few parents confine their children to the household – it is more like *community schooling* or learning, as it is typical for homeschooling children to in fact find more time and possibility to be active outside of one place and learn from many environments and a variety of people with a variety of skills. Along those lines, while children in school are heavily age segregated in a linear progression of grades, homeschoolers are often able to, as Desaulniers says, “relate to people of all ages.” Ultimately, as the lives of children and their parents are regimented by and revolve around school, it takes rethinking and adjusting, and a change in the way day-to-day life is lived. As Bobbi Meister, a homeschooling mother put it, “More than an alternative, homeschooling is a lifestyle.”²²

School as Vernacular

Despite all its flaws, for many school may at a given time provide the best means for education and empowerment, and often schools provide many resources that cannot be found in homes and communities. For millions, school is the safest refuge of a life of drudgery and confinement. For many women, schools are the most optimal place to be empowered outside of a male-dominated society. Furthermore, alternatives do not exist for many children who live in societies where both parents work, or the women that stay at home are not optimally educated. For the many children who don't even have parents, institutions are the only options that are provided. Indeed, as school is so ingrained in much of society, they are the vernacular and in circumstances where they provide the greatest means of education, they are the best option available.

As school is so embedded into society, it is typical for people to work with schools as they exist, as a part of the diversity of education available, while working to reform schools as they are. In the United States, it is common for people in the homeschooling communities who may be opposed to school fundamentally, to adopt and participate in aspects they find effective. Homeschoolers are often involved in extra-curricular activities of their school-going peers, and attend individual classes and events. For the participants of Taleemnet, their objective for schools is to “mitigate at first their worst aspects, particularly those features that make schools like prisons.” Yusef Progler, a participant of Multiversity, was particularly impressed with one program. “In New York City they have their program called 'City-as-School', where high school students spend only one or two days a week in the traditional school setting, where they do some reading/writing/arithmetic, traditional school stuff, but the other three to four days they are out in the city, because the city is the school. In the city they work in community service, they work in apprenticeships, they do research projects, they work in soup kitchens, public service, all sorts of different things as a way to explore life, to explore vocation, to try to find 'who am I and where do I fit into the world.' The idea is to have less school and more time for living or learning to live life, and learning to relate to your community.” As people inside and outside of school-based education systems interact with each other, they are blending into one another, and what communities may be left with is a wide variety of systems that incorporate the benefits of both.

At the Sri Atmananda Memorial School in Kerala, the Atma Vidya Educational Foundation (AVEF) has designed a school system based on a pedagogy that is profoundly child-centered. According to the organization, “Generally speaking, in conventional education it is the child who must adjust to the teacher, and the child's feelings and interests are not central to the educational process. In the KPM Approach to Children, it is the reverse. The teacher has to adjust to the child, and the child's feelings and interests are central to the child's education.”²² Children are allowed to do what they please, and a teacher guides a child through the inherent rewards of work and learning. As teacher Dini

22 KPM Approach to Children. Atma Vidya Educational Foundation. <<http://www.kpmapproach.org>>

P. put it, “Compulsion leads only to negative results, either directly or indirectly. This happens because any work done under compulsion does not come from the depth of our minds and hearts. We do it only to satisfy others or just to avoid getting beaten up or scolded. On the other hand, if we do work with a feeling of full self-satisfaction, i.e. with our own interests, it will show better results.” The schools have been very successful, and AVEF opened a branch in the United States, in the state of Texas.

In even the most institutionalized circumstances, people have shown that when responsibilities are left to the subjects, it can succeed greatly. In the United States, in the state of Iowa, the Woodward Academy was built for boys among the most difficult to control, who committed violent crimes. The administrators act as mentors, and are trained in a method in which they find the social leaders, who command the most attention, and empower them to have a positive role in the Academy. The boys thus run the academy, and they discipline each other in their behavior and performance in school. As the most effective regulator is meaningful, loving relationships, even within an institution, a community that is left to itself can regulate itself. If these principles were applied by people in communities, perhaps it would render the need for institutions like the Woodward Academy needless.

Alternative Legitimization

When developing an education system outside of school, the issues of certification and legitimization are often the most difficult obstacles for people. Yet in many places alternative means of certification are provided outside of schools, within the modern economic framework. Despite the active promotion by the state for modern schools, in many cases it has been beneficial to provide an alternative route, which has opened the door to alternative education. In the United States, the General Educational Development (GED) test was created in 1942 to provide a state-legitimized means of gaining high school equivalence, allowing men who served in World War II the possibility of returning to civilian life or go on to higher education. This has continued to this day, and mimics high school pedagogies as they have changed over time. In India, alternatives routes have been needed, given the great infrastructure and time required in creating modern schools, and the compromises needed with tremendous pluralism at odds with uniform state ideologies. Several options were developed and continue to be expanded and refined, including certification testing with the Central Board of Secondary Education (CBSE) and Open Schools run by state governments, temples, and trusts. Homeschooling organizations like NICHE and Taleemnet provide information and resources for people who want to take a route outside of schools, and go onto higher education and professional careers. Many of these organizations have members that are well-connected politically, many of which have an elite social status, keeping governments from closing the door on options and effectively lobbying to widen them. To that effect, despite all the difficulties of providing an education at the home and community, Desaulniers says, “the hardest part has been *graciously* defending home education.”

The Root of Independence

Intertwined with being self-motivated, it is common for homeschoolers to take on responsibilities far above and beyond what is allowed in school. In the state of Wisconsin in the United States, is a single mother of three children: the eight year-old girl does the sales taxes, the twelve year old spins yarn, and the fifteen year old runs a part of the business and, when he was thirteen, wrote an environmental regulation bill that passed in the Wisconsin legislature.⁹ In Iowa, Jason Heke, who grew up on an acreage near the city of Johnston, learned to garden apart from his parents and started a stand at the local farmers market when he was twelve.⁹ Before he went to college, he renovated three houses and rented them out. He says that “homeschooling allowed me to be entrepreneurial,” and laments the fact that in schools kids don’t even “learn how to balance a checkbook.” When asked if his parents pushed him, he said, “it feels more like I *pulled them*.”

This kind of resourcefulness has a strong precedence everywhere. Rabindranath Tagore, among many others in modern India were self-taught, and were deeply opposed to the modern school.²³ To give one of the most famous examples, Benjamin Franklin grew up as the son of a candlemaker, and apprenticed in a print shop at the age of 12. There he learned several arts, and in his spare time developed his own writing style. He went on to found the first franchise, the first fire and police departments, the first circulating library, create original monetary policy, invent the bifocals, the lightning rod and a stove, discover fundamental properties of electricity, discover and map the Atlantic current, introduce several new crops to the Americas and Europe, explicate swimming techniques, and as a diplomat arranged support from France for the Revolutionary War that won American independence, and oversee the writing of the Declaration of Independence and the American constitution.²⁴ Him and many of his colleagues were self-educated. A more recent example, Craig Venter, claimed much of the credit for, and heading the company that decoded the Human Genome, was homeschooled.

A common feeling among homeschoolers everywhere is that education should happen in the context of peoples lives, livelihoods, communities and environments, whereas in school they feel that what they learn is overtly unrelated to any context. For the majority of Indians, schools are often seen as conflicting with their lifestyle of working for the family. On the one hand, lifestyles are not balanced with the empowerment of a wider education, while on the other, school does not provide the active skills needed to empower them to provide for their families now and in the future. For their practical needs, the majority of children do receive a community-based education by participating in their families livelihoods, but the benefits of a wider education need to be sought.

While feeling they weren't learning anything useful to their lifestyles in school, children from a few villages in the Parganas District of northern West Bengal formed the KishorKishori Bahini (KKB), literally *Youth Brigade*. Uttam Basu, a founding member of the brigade said, "How would plotting Mount K2 on a map help me with the till? I needed to know more about my land and my environment." The youngest or newest in the brigade start with first aid, maintaining a nursery of young plants, studying insects and birds and their usefulness to crops, then go on to develop extensive charts, tables and graphs for an expanding databank. By the time they are teenagers, they can record rainfall, read weather instruments, weed fields, clean and disinfect tubewells, and repair village roads. In all, there are over 44 categories of skills to learn. The brigade cleans water bodies and hospitals in different villages and have built a herbarium from which they administer an array of herbal medicines. They have regular vaccination programs for livestock every three months, charging a third of what the panchayat vet charges. One child, the eldest of nine children, adds a few hundred rupees to his family's income every month. Another, Putul Mondal, brought her skills home and showed how to grow vegetables on some of her family's unused land, and regularly sells the produce with them.²⁵

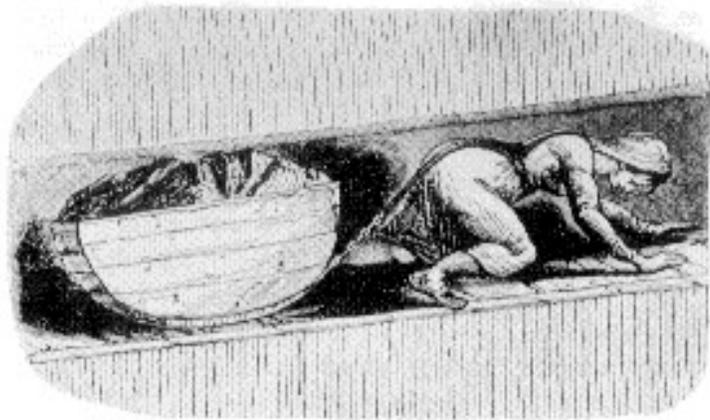
Many oppose youth working in such a context, as they consider it to be child labor. Shantha Sinha, secretary of the NGO M. Venkatarangaiya Foundation (MVF), a participant of the United Nations Education for All (EFA) initiative said when asked how important the issue of child labor was for the drive: "It's absolutely crucial. We need to establish the link between child labour and EFA because anyone attempting to deal with one without taking into account the other is bound to fail. We consider every form of work done by children as child labour whether it be hazardous occupations like carpet weaving or more acceptable forms such as grazing cattle. Any child not in school is a child who will sooner rather than later be put to work. We believe that all kinds of child labour must be abolished

23 Tagor, Rabindranath. *The Parrot's Tale*. <http://www.multiworld.org/taleemnet_pages/parrot.html>

24 *Benjamin Franklin*. PBS Website. <<http://www.pbs.org/benfranklin/index.html>>

25 Ghosh, Labonita. *Self-Schooling*. India Today. July 8, 2002

and that all children must attend full-time formal school.”²⁶ While many live their lives in difficult circumstances, often working as wage slaves or bonded laborers, or being burdened by excessive work in general, calling all such work outside of school abusive is a sweeping generalization that many feel to be highly flawed. To give a scenario, while a child may study heavily how a plant grows in a biology textbook, and study hard for an exam, another child can sow a seed and understand it through experience and be “tested” by the responsibility the relationship with the plant requires. One may ask how the former,



an illustration of child labor in a coal mine in early industrial Europe

though it is for most people far less fulfilling and takes far more effort, not considered *labor*, especially in the world of desk jobs? Furthermore, when the plant bears a fruit that the caretaker then eats it or sells in the market, it is a lesson found highly empowering that can never be carried out in school, even if there is an opportunity to learn the laws of supply and demand in a business or economics class.

“Child” “Labor”

Again, the preconceived notion of child labor needs to be examined, that is, what is a *child* and what is *labor*. While historically people spent much of their early lives learning the trades of their parents, and work may have in many circumstances been grueling, with the onset of the Industrial Revolution, work took on dimensions that were far more lengthy, difficult and dehumanizing. For a child, working in factories and mines in the way of adults greatly stunted their natural development. In the 1934 edition of his *Public Education in the United States*, Ellwood P. Cubberley wrote, “It has come to be desirable that children should not engage in productive labor. On the contrary, all recent thinking ... is opposed to their doing so. Both the interests of organized labor and the interests of the nation have set against child labor.”¹¹ As children engaging in the work of their parents in the industrial era became increasingly unacceptable, school was largely driven out of the need to provide an environment for children while their parents worked. Compulsory education began with primary education, but then extended to secondary education, and thus childhood was extended. While the notion of *adulthood* was often not so rigidly defined, and began with the onset of puberty and the end of dependence, usually ending between the ages of 13 and 15, childhood expanded to something highly socialized, and is now 18, 21 or even 25. The necessity of the dependence that school creates was spelled out in one chapter in Cubberley's book entitled *A New Lengthening of the Period of Dependence*, where Cubberley wrote that the factory system had ended the independent production of villages and required employee labor, thus ending such kind of training their lifestyles required.¹¹ The purpose of school, according to Cubberley was different from the purpose of the education of independent production. Much earlier, in 1905, Cubberley wrote in his Columbia Teachers College dissertation that schools served the purpose of factories “in which raw products, children, are to be shaped and formed into finished products manufactured like nails, and the specifications for manufacturing will come from government and industry.”

It is not a coincidence that people who grow up on farms are so self-dependent and enterprising.

²⁶ Daniel, John. *Higher Education for Sale*. Education Today. No. 3. Oct-Dec 2002.

By working directly with the soil, people understand independently how wealth is actually generated at its root. The relationship between work, output and sustenance is directly experienced, whether the food is eaten or sold. A similar relationship exists with community volunteering, apprenticeships with small businesses or any form of work from which production is directly reciprocated. While the value of hard work is learned, people who are wage laborers do not learn how wealth and work are intertwined, as they receive the same income regardless of what they do, and while a farmer or entrepreneur in an open local free market is independent, the work of a laborer is coordinated. Thus, a wage laborer can never understand how wealth is generated as he or she is accountable to the employer and the business and not directly to the product.

The application of the concept of child labor to people with lifestyles that are independent, closer to home, and non-abusive is felt to be misplaced by many in both the developed and developing world. In fact, people who grow up in such circumstances often feel that the modern school carries its own level of abuse. While what can effectively be called child labor on the one hand takes children away from the development that playing gives, schools also take children away from play for lengthy amounts of time. One can argue that school then takes away childhood by taking away a great deal of time from play, while also depriving people adulthood by extending the period of dependence. Rather, a lifestyle of both work and wider education can be balanced and intertwined, along with more free time to spare.

Relegitimization

“Long ago, there were five friends in a village, each born blind. The villagers loved them very much, and took care of them, keeping them away from danger. The blind friends had heard of many things in the world outside their village, and they were most curious about elephants. One day they had the opportunity to be in the presence of an elephant. The first began by touching the side, and said, “An elephant is like a smooth and solid wall.” The second felt the trunk, and said, “An elephant is like a giant snake.” The third grabbed a tusk, and said, “An elephant is a sharp and deadly spear.” The next touched a leg, and said, “An elephant is a large cow.” The last one felt an ear, and said, “An elephant is like a carpet.” They engaged in a heated argument, never stepping back and realizing what was obvious to those who could see.”

School is just a part of a social system that it follows and fulfills. If this social system can be thought of as a machine, the school is just one component. In order to change the school, one must also change the whole machine, if not dismantle it. Through constructive and meaningful dialogues, and the creation of productive networks, people involved in creating education alternatives are revealing a conscious image of the whole system, and developing alternative paths separate from and complimentary with the whole system, from the methods of learning, to the systems of certification, to the means of livelihood it all depends on. In the same way homeschoolers have found self-dependance, whole communities have found ways of self-educating. By combining efforts and forming networks, homeschoolers have through sharing the burdens of overcoming the system, begun to create new paths. This has been a greater exercise in self-education in that groups have demonstrated that they can consciously evolve a society that is mutually beneficial. As Gandhi put it, the goal of education should be to “educate the masses to a sense of their capacity to regulate and control authority.”

While many are opening the doors for alternative systems at the secondary stage, many are going further, creating new, alternative systems of certification at later stages, creating altogether

different paths outside the modern system. Alternative and traditional systems of knowledge and professionalism have been delegitimized by the modern system, which claims itself as universal. This has caused a great deal of contention as they are often highly effective and form the culture and social identity of many peoples. Darshan Shankar, a founder of the Foundation for the Revitalization of Local Health Traditions (FRLHT) writes, “As an urbanite, I had studied the natural sciences in school, college and university. However, these were all of Western origin: I was not exposed to any other form of knowledge. I did not know that other useful knowledge systems – indigenous ones – existed in an organized form in our society or that they were still functional and used regularly by a vast number of people.”²⁷ Later while working as a social activist in a tribal area, Shankar observed with amazement how the tribals knew the uses of over 400 plants and animals. He gives an account of how a *vaidu* cured a colleague of a severe bout of jaundice: “He promised to get me a remedy the next day. In fact he did not show up for two days. He then cheerfully explained that he had to go deep into the neighboring forests to locate the herbs he needed. He had spent two whole days looking for the plant, which was used by my colleague with dramatic results.” While the *vaidu* on the one hand used prescriptions and methods that were very different from modern medicine, the economic system that his practice relied on was completely different from the modern system. Writes Shankar: “The healer, however, did not ask to be compensated for the trouble he had taken. It was left to us to express our satisfaction in whatever way we could afford. In the tribal culture, no patient expects 'free service' - they show their gratitude by giving the healer some grain, a hen, or a bottle of the local brew; but all this not demanded as a precondition for the service.” When Shankar tried to *validate* many of the medicines through modern science, there was rarely any information, whereas when he consulted Ayurvedic physicians, they had written knowledge on the materials the tribals used in great detail. While conducting a study on one plant requires a massive investment by modern pharmacology, traditional practitioners have a deep understanding of the form and function of plants and environments, and are able to readily apply their knowledge to newly introduced plants. In fact, a great deal of controversy has been generated in the last two decades as modern drug companies have appropriated traditional knowledge, patenting and packaging it. Many of the most widely used modern drugs, from aspirin to hoodia, one of the most popular diet drugs, come from medical traditions outside of, and later appropriated by modern institutions, economies, and patent regimes.

People of a wider variety of backgrounds and professions at FRLHT are doing everything they can to revitalize traditional medicine, from conservation efforts to documenting local practices to protection from intellectual appropriation and remaining in the public or common domain, to generating peoples confidence in the system in itself, as well as blending modern medicine with traditional systems. In order to adapt traditional practitioners to modern circumstances, FRLHT has facilitated the creation of Vaidya Sangas, or collectives of traditional practitioners which create certification systems for their practice, under an education carried down through traditional family practice. This has restored a great deal of confidence in the system, and reaffirmed legitimization outside the accreditation of modern universities.

Self Legitimization

Among participants of Taleemnet, conversations are underway on how to produce legitimization and certification for professions and skills both old and new. This would range from formal certificates produced locally and accredited across the network, to a trusted network of people who vouch for each others qualifications, much like references on a resume. While people are creating alternative systems of certification, many, including members of Taleemnet, are wary of means of certification entirely, as

²⁷ Shankar, Darshan. Unnikrishnan, P.M. *Challenging the Indian Medical Heritage*. Center for Environmental Education. Foundation Books, 2004.

they believe in the merit of one's own skills, being self-legitimized. This would require a more local economy, where people know the skill level of people through more direct experience. For people engaged in developing or maintaining local economies, it would follow that the education should be based on the locality. As one Multiversity participant put it, education should also “produce books on local geography, local botanical wealth, local geology. They should know what kind of soil and water exist in their neighborhood i.e. the biochemical properties of the water, the status of the local groundwater, the disease patterns in the area, the plants, the herbs, animals including microorganisms living in the area and their functions. If they are observant, they will become producers of new knowledge, maybe even at the level of fundamental principles.”²³ Such local economies can exist in parallel to larger scale economies, and carry a great diversity, from tribal economies such as the ones Shankar encountered, to local economies in dense, urban settings. Many people engaged in such pursuits feel that if local communities can balance the power of self-reliance with a wider education, and gain many of the benefits of the modern world, they can carry all around self-empowerment.

How Effective Learning Works

For people accustomed to education being institutional, it is difficult to imagine what education would be any other way. In fact, one only has to observe their own lives to realize that most of what they know is learned outside of school, but as it is learned in practice rather than in theory, and not under the self-referential title of “education”, people are not aware of it being as such. In the end, apart from what is required for formal training for professional careers, education, or learning, is most effective when built into people's lives. Learning comes naturally, and thus, as with anything, if education is done too deliberately, whether through modern schools or through evolving alternatives, it will subvert education itself. Says Ashis Nandy, a participant of Multiversity:

“Have you ever tried to breathe normally and count the number of breaths you take? If you try you will find that it is impossible to count your breath and breathe normally. Self-consciousness has its cost. For a number of years in my early life, I worked on human creativity and potentialities and I can confidently say that any endeavor such as the Multiversity is a design for hope, an attempt to release human potentialities. Unfortunately, we are caught in a double bind.

We enter this venture because we want to decolonize knowledge, we want to relieve or release systems of knowledge and people practicing them from the hegemony of a global structure. To do so, we need some degree of self-consciousness, a critical awareness. But too much of self-awareness can be self-destructive too. It's like trying to breathe self-consciously, yet normally.”²³

In evolving an alternative education system, the most effective means would be to, as people who meditate do with their breath, occasionally observe how they learn and become mindful of it. While the way people learn can vary greatly, there are common themes. To begin with, along the lines of not being too deliberate, when asking what should be done about education, the more useful question may be, what should *not* be done. As Mitra demonstrated in his hole-in-the-wall experiment, less may in fact be much more. John Holt, an early proponent of homeschooling said, “The most important thing any teacher has to learn, not to be learned in any school of education I ever heard of, can be expressed in seven words: Learning is not the product of teaching. Learning is the product of the activity of learners.” Learning is most effective when it is built into life and extends from the volition of the learner, rather than the instruction of the teacher.

As Gatto puts it, whereas one aspect of school is *confusion*, the “unrelating of everything” through separating subjects and then learning them in a context separated from the subject itself, people learn things best as they are connected to one another. In everyday life, people who are hungry might

be compelled to cook food, which they have to learn somehow, by observation and practice. Upon learning about cooking, one may become curious about the relationship between diet and health, and pull out a book on nutrition. This may *sidetrack* the person into being interested in biology, which then leads to chemistry, then physics. To further understand food, the person may grow a few vegetables in some pots on a windowsill, and in the process provide insight on humanity's role in nature, which the person is by a small measure directly participated in. Later, while learning how to garden, the person may participate in an online blog on gardening, or write an article about a rare plant on Wikipedia. Becoming more involved, the person might create a website and blog and learn web programming in the process. While working at their computer they may not like the chair being sat on and the lamp being read under, and so take some time to make a custom chair and lamp, and in the process learn some very basic carpentry, architecture, wiring and engineering. The trick often is balancing the natural flow of learning with the self-discipline necessary to be able to achieve things efficiently and completely. This can be gained by experience and the development of a culture of education.

While the natural learning process is too unordered and chaotic for the school, it is effortless and fulfilling. As Gatto puts it, contrary to what is learned in school, everything is *inherently* interesting. While this kind of learning can happen outside of the school, with so much time devoted to school and schoolwork, there is little time for people to even develop their own character, and learning itself becomes associated with grueling and deliberate boredom, as it is both contrived and forced. Though learning and doing anything productive takes hard work and self-motivation, that can only be produced by the individual, which would naturally extend from their inherent rewards, which are not, as Gatto puts it *provisional* from the authority of school in the form of grades.

The Future of Learning

Demonstrations like the Hole-in-the-Wall experiment not only show the capacity of people to learn, but also reveal the potential of technologies that are becoming widely available today. With so much knowledge available instantly at peoples fingertips, the traditional means of distributing knowledge and skills is fundamentally changing. This will likely subvert much of the traditional infrastructure devoted to education itself. Anyone can send and receive information, for it to be equally available to anyone who has the tools, which are becoming drastically cheaper and widely available at a breakneck pace.

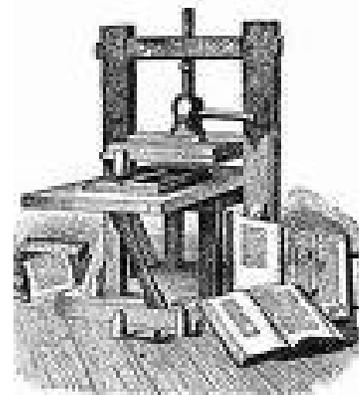
The effects of information technologies cannot be understated. *Time* magazine claimed at the turn of the millennium that the most important invention of the last 1000 years was the printing press.

Before the press, producing written knowledge in Europe was for scribes, employed by the Church on material that was less convenient than paper. Because of the physical nature of copying and holding knowledge, the Church and established order could control who received what knowledge and how. Paper was relatively new and expensive - Cambridge University in 1424 owned 124 books, each worth the value of a small vineyard. In 1439 Johannes Gutenberg, a goldsmith, invented the printing press, and books and information could be produced en masse cheaply and easily. In 1517 Martin Luther's *95 Theses*,



the XO Laptop, a first attempt towards producing a sub-\$100 laptop by One Laptop Per Child

which listed 95 violations of the Vatican, was printed and posted on the wall of a cathedral in Germany, and spread throughout Germany in two weeks and throughout Europe within two months. This was a watershed

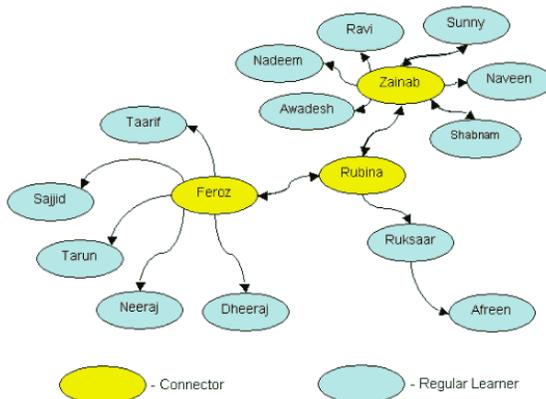


Gutenberg's printing press

event that began the European Reformation. Now that information was not monopolized by the hierarchical control of the church, the whole power system crumbled, and two hundred years of chaos solidified in the Nation-State system, with the Church having only nominal power.

Information technology today is being disseminated far more rapidly, and is having an effect that is far more wide reaching, in a much shorter amount of time, and in a way that is much less violent, and widely beneficial. Mobile phones hardly existed in India 15 years ago, but now there are over 400 million subscribers. Mobile phones are becoming more widely available and more powerful, having all the tools of a computer. It is likely that computer technology and the internet will come through the

mobile phone. The One Laptop Per Child project is attempting to create a laptop below a \$100 (Rs. 5000) benchmark which has a basic browser and word processor among other software, and has a hand crank for generating power and antennas that can send and receive a signal in a mesh network. These technologies will become even cheaper, and make information more or less equally available to everyone, and on a person-to-person basis. While learning before was very hierarchical, both for the benefits of control, and the nature of information, these technologies are vesting power into the hands of everyone and no one, and for simple knowledge, making hierarchical learning simply irrelevant.



how a Learning Station works, from the website of Hole-in-the-Wall Ltd.

Total Empowerment

In educating several generations with the modern school, we may have stunted our own growth and over time taken for granted lower standards, thus tremendously underestimating ourselves. In the late 1800s, during the transcendentalist movement in the United States, Bronson Alcott ran a school where he asked students questions, rather than the other way around. Rather than impose discipline with the ferule, he would hold out his hand and ask the student to hit him instead, saying their failure was his failure. He functioned less as a teacher and more as a *guide*, while also learning from students, and education as a group was self-directed. Such cohesiveness brought out the best in him and the children. The following is a part of a transcribed outburst from a six year old child, reproduced in *The New Yorker*:²⁸

Mr Alcott: Can you say to yourself, I can remove this mountain?

Josiah: (Burst out) Yes, Mr Alcott! I do not mean that with my body I can lift up a mountain - with my hand; but I can feel; and I know that my conscience is greater than the mountain, for it can feel and do; and the mountain cannot. There is the mountain, there! It was made, and that is all. But my conscience can grow. It is the same kind of spirit as made the mountain be, in the first place. I do not know what it may be and do. The body is a mountain, and the spirit says, be moved, and it is moved into another place.

In creating an education system that truly empowers, people would be allowed to realize their potential, which is boundless. Perhaps people will one day look back at the education people received in the modern school and say, “People *wanted* to send their kids there!?”

28 Geraldine Brooks. *Orpheus at the Plough*. The New Yorker, January 10, 2005, pp. 58-65.