

The Nearly Free University
Charles Hugh Smith

Smith has the genius to find the words to distill observations which become clear to all when he reduces them to the succinct text that nobody else seems to have managed.

Smith opens with the observation that education is a dinosaur of an industry. It is delivered the same way it was in Aristotle's day, by assembling the students in the physical presence of a teacher. That was necessary when there were no books, and when books were too expensive for individuals to own. The reason that the situation perpetuates itself has more to do with the rich benefits which accrue to teachers and administrators in the University itself rather than any benefits to the students.

Education is a protected cartel. The right to accreditation is controlled by the state, and it is doled out to institutions which conform to the traditional mold. All participants in the industry have an interest in and its perpetuation, except students. Students are powerless and not very well informed, so the system continues as it is.

We employ the factory model of education. Smith says it is widespread since World War II; I have read that it was introduced over a century ago, during the industrial age. This has been observed by many writers, including Diane Ravitch and John Gatto. In any case, students move from class to class throughout the day like products being built on an assembly line. At each station along the way, some teacher installs knowledge in their febrile young brains.

Decentralization, Adaptability, Transparency and Accountability comprise what Smith calls by its acronym, the DATA revolution. The system is the successor of the system of large institutions with their personnel departments and supposedly predictable career paths. The essential elements are human and social capital.

"The fundamental feature of the emerging economy actively depreciates the value of any credential, regardless of its origin: in a decentralizing economy, what matters is what you can do, not what credential you hold."

The characteristics which Smith describes for the nearly free University are open enrollment, universal accessibility, and individual accreditation. The first two are quite easy to implement with the Internet. To me, the third is the challenge: to ensure the integrity of the accreditation process, and to provide something that is widely recognized. If this can be done, it will truly break down geographic barriers, allowing students worldwide to cheaply obtain Western credentials. It should also spawn a tutoring industry, or small classroom industry, by which students can get individual attention from qualified teachers without the intermediation of an expensive institution. Smith projects that this can be done by artificial intelligence, perhaps something like IBM's Watson. Whoever is right, it can be done substantially cheaper and more efficiently than via teaching assistants in campus classrooms.

Smith envisions an accreditation process similar to the bar or CPA exam. I'd add the Microsoft Certified Systems Engineer and similar Cisco Certified Network Professional. In my opinion, these exams are at once too broad, covering a large number of skills of which a given person need be expert in only a few, and too narrow, as they cannot possibly address subspecialties. I think there will continue to be a need for accreditation based on successful completion of a given curriculum, which may indeed be an online curriculum. Accreditation can be done by today's traditional bodies. The question is credibility and price. Somebody will emerge to provide foolproof accreditation at a reasonable price. This includes proctored exams, probably augmented with oral exam, etc. Validation will include voice authentication, handwriting analysis, fingerprint readers, and perhaps oral interviews via Skype. Something will work.

There is a need for the emergence of a kind of talent auditing industry, similar to the fraternity of CPAs auditing corporate books. No two companies are alike (as no two people have similar inventories of skills) but a professional can rather quickly determine whether people know their stuff. Personal references and referrals need to become even more significant. The academic world has developed systems to evaluate the relative importance of an author being cited (by whom, where) in judging the quality of his publications. The same kind of heuristic system might apply to credentialing. LinkedIn is trying it, but with no quality control measures in place.

Smith cites his own college experience, 1971 through 75, saying that it really did not prepare him for what he does. Everything important he has learned on his own. I will echo this. I attended Berkeley off and on from 1960 to 66, and was in a doctoral program in education and later statistics at the University of Maryland from 2004 through 2007. All of the experience was interesting, but the skills that I needed to succeed in life were much more basic: reading, writing, and arithmetic (mathematics). As Smith notes, I traded heavily on skills that are not taught, such as how to plan, organize, lead, follow through, and get along with people.

Today's operating philosophy is that teachers teach. As Smith notes, the fact is the opposite: students learn. Acquiring knowledge is an active process, and the teacher is only a facilitator. Putting the student first makes the teacher an optional accessory to the process.

Although Smith does not pursue the concept, this leads to the conclusion that the essential factor in learning is the ability to learn itself. This is the very definition of IQ. In his DATA model, the key individual attributes will be intelligence and desire. Although it goes profoundly against our egalitarian, democratic philosophy, our society, and especially the small-unit commerce he envisions, increasingly favors smart people. This is evident in the increasing income disparity between those on the top and the declining middle class. Success in the Nearly Free University will depend on an individual's drive and intelligence. This is an improvement over Daddy's connections and government money, but it is still not egalitarian.

Smith introduces a related acronym, DSFRA, for digital-software-fabrication-robotics-automation. The observation is that masses of physical capital and physical plant are becoming less and less necessary, replaced by a need for increased human capital. This is split into characteristics of the individual and the society. At the individual level, he says a person must be able to

1. Learn challenging new material over one's entire productive life
2. Creatively apply newly-mastered knowledge and skills to a variety of fields
3. Be adaptable in all work environments
4. Apply a full spectrum of entrepreneurial skills to any task
5. Work collaboratively and effectively with others, both in person and remotely
6. Be professional, responsible and accountable in all work environments
7. Continually build human and social capital
8. Possess a practical working knowledge of financial and project management

Smith contends that there is almost zero correlation between success in the classroom and the workplace, because the above-named skills are not stressed. I would not be quite so harsh. Many of the same kinds of skills are needed in an academic environment, especially a graduate program, because of their similarity to other work environments. People need to be collaborative and productive. His point that these skills are not consciously taught is, however, absolutely valid. To repeat the point I made above, it is hard to envision a person having adequate measures of these named skills without being fairly intelligent. Nowhere does Smith address the fact that SAT scores are going down every year despite massive expenditures by the education bureaucracy to raise them.

Smith writes: *Higher education must enable students to take a job the day after graduation and start creating economic value that same day. They must have mastered the eight essential skills by doing, not watching, and assembled enough human and social capital to learn whatever hard skills are required on their own.* Not must, should. Employers recognize that millennials are less likely than ever to have these skills.

Smith writes about teaching the soft skills, such as organization. There is a question of whether these can these be taught per se, or are they best learned. He chose an especially apt analogy for me: building a house in a strange place. I moved to Kiev six years ago with no contacts or language skills, and just completed building a house, employing a new language and the soft skills I acquired over a lifetime. Aside from Russian, which I might have better learned via formal education, I cannot think of any skills which could have been taught via a curriculum. I have seen all of the advice I might have needed in self-help books, but locating such advice, understanding and internalizing it is a matter of talent and experience.

Many of the majors taught in college are academic in nature, such as anthropology, sociology, art history, literature. The traditional belief is that people learn these things for their own betterment and the advancement of human knowledge, not to become economically productive. The misfit is that since demand is simply a cultural artefact, it can disappear overnight. In any case, Smith's metric of the marketplace value of a graduate's labor applies better to skills in the productive sector of society.

Smith idealizes the concept of mastery. I was a master computer technician. Most clients can't appreciate mastery. It took the brand name of Oracle, IBM, Computer Sciences or Booz, Allen to market my skills. Moreover, these large entities were able to pass off other employees' mediocre work,

because the people who made the purchasing decisions were far removed from those for whom the work was done. Smith is right in an ideal world. In the real world, the brand name of the employer remains as important as the brand-name of a university. The fact is that I've educated myself, but the brand name I carry is Berkeley. The value of a master will not be fully realized until the DATA revolution is complete, and people no longer hide behind credentials and within large organizations.

Much of what a student has to learn today has to do with software. Adobe, Quicken/Quickbooks, Excel, Word, SPSS / SAS, AutoCAD. Computer power is close to free; need a mentor to guide you through it. This leads to mastery of useful subject-area skills: architecture, statistics, design, etc. As I read this book, I kept computer skills in mind as the paradigm towards which the DATA revolution is driving. Computers and the Internet can make us knowledge workers all decentralized, autonomous, transparent and accountable. Our success depends in large measure on mastering the tools which they place at our disposal. The skills we acquire may, however, be beyond any academic measurement. I am very good at manipulating foreign languages using Microsoft Word and doing multiple regressions in Excel. These are valuable skills, but I don't know anybody else that does them and I cannot conceive of a test being devised to measure such skills. Best I can do is references. "Graham is good at that."

This is a key point in a related book, "Hacking Your Education" by Dale Stephens. References are more important than credentials, and a kid like Steve Jobs who spends his college years building skills that others recognize is better positioned than somebody who simply accumulated credentials. Also, he does not even notice the transition from study to work. It is all the same.

Smith talks about the problems of teaching the hard subjects, Science, Technology, Engineering and Math. The first three are lab-based. Although, labs are increasingly software based, chemistry, physics and engineering require physical labs. Smith observes that the size and expense of these labs has come down significantly, that much of what a student needs can be found in shared facilities owned by corporations and traditional universities, and people can be very imaginative in the face of budget constraints – which today's universities really aren't, despite pleas to the contrary.

Smith does not address language learning per se. The traditional model was very heavy on classroom attendance. Over the past few decades language teachers have been putting students into language labs in which they interact with audio recordings and teaching software. I have taken language courses via Skype. My observation is that a traditional classroom may still have some uses, such as conversation and having an expert point out specific learning needs, but by and large language fits the NFU model quite well.

There are some areas in which there is no substitute for a real professor. I had a good anthropology professor, Janet Chernela, when I spent a month in the Amazon ten years ago with the recently-wild Kayapo. We read a lot prior to going, but nothing in the experience, from the caimans and piranhas we swam with to the chiggers that ate us, could have been done virtually. You could not draw a direct connection between that experience and anything practical I do in life, but I am sure the connection exists.

The latter part of this book is a recapitulation of Smith's other books, tying them out to the NFU. He very clearly sees a need to reduce society's material consumption. He points out how it is happening: car sharing, smaller houses, delivery of goods ordered by Internet in place of bricks-and-mortar shopping, and changes in taste. Yes, we are making progress, but we remain status-driven animals, and possessions are a critical part of the status business. He points out the fact that bloated government and other bureaucracies are appropriating so much of the surplus value in almost all societies as to leave little wealth for investment and improved products. These are all good points, covered in my reviews of his other books. I recommend them as well-ordered, consistent and complementary statements of a complete worldview.

The major factor lacking in the worldview is an appreciation of demographic realities. Evolution is headed in reverse. Humankind is getting systematically dumber, less able to do the things that Smith says it should. His cornucopia of good advice will never spill over the great masses who would most benefit from it. Why? Somewhat, problems of character. They are not willing to learn, to do hard work. But it is in large measure because they could not if they tried. Educators are stubbornly unwilling to see a lack of ability behind apparent lack of motivation. But on the other hand, very few kids will tell you they are too dumb to learn a subject. Even fewer teachers are willing to accept the fact even when it is quite evidently true. It goes against deeply held convictions on both sides – which is why much of what Smith advocates will not be widely adopted, however much sense it makes.

Here is a short list of other books with which the reader should be familiar include: Academically Adrift, which Smith cites frequently. An Underground History of American Education, Left Back, a Century of Failed School Reform, Hacking Your Education.