

## **Technology and Virtualization of Educational Process**

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### ***Abstract***

There are two methods to limit an individual's perception of reality. The first is to place constraints on the physical environment and thus create conditions for the senses to convey the available information to the brain, excluding alternatives. This limitation in time establishes meanings derived from information stream, forming a unique perception of true reality. This case is similar to Plato's allegory of men of the cave. The second method is to present virtual reality as reality. The second method is not far from the first, since the digital technology has given humanity the ability to project the image of reality on a screen creating a virtual environment where we have virtual friends and virtual theories which mimics true reality. The objective of this paper is to raise a number of questions regarding the process and purpose of education, positive and negative psychological imprints and effects on overall transformation of young generation of distant learning versus that of classical universities. The main focus of this paper is to draw analogies between men of the cave and men and women of the iPhone.

### **Introduction**

In this age of fast computing and instantaneous information exchange, we are merely focused on information, but it is important to differentiate between information, intelligence, knowledge and wisdom. To elaborate on these concepts, we define information as collection of symbols or linked symbols pointing to an object, event, action, phenomenon or space, and intelligence as a mechanism for sorting the strings of symbols and arriving at conclusions. Knowledge is defined as the experience of arriving at a conclusion and the complete realization of a conclusion by examining the process and testing it in the real world. Finally, wisdom is the implementation of the acquired knowledge to benefit mankind in positive ways. For example, observing the falling of an apple from a tree is information, just as the falling of any object from a table, but arriving at the conclusion that all objects fall is done by intelligence. Knowledge is the condensation of thought that relates masses and distances to gravity combined with the formulation, calculation and demonstration its validity in the real world while wisdom is using falling water to generate electricity. We exclude computers, regardless of its storage size or complexity of its algorithm, from the ability to acquire knowledge or become wise. This exclusion is based on finality and incompleteness, which is inherent in logical deductions and mathematical constructions of algorithms written by a programmer to analyze the information. By moving towards distant learning, institutions of higher education will mainly deliver information and explain paths to analyze the information gathered on specific topics. In general, most members of iPhone generation, if not addicted, are glued to their phones and streaming

information and are not concerned about the validity of information presented to them. This will create a virtual cave, similar to Plato's cave, where all information is either interpreted as factual truth or perceived as truth. The twenty first century cave will have similar effects on formation of our ideas and our daily social discourse. It will lead us to many false paths with disastrous results as is evident from events of last two decades. The complete reliance on information presented by a centralized media has created the belief that truth is equal to what the anchor says or what the "Internet says". Another problem that educators are facing daily on college campuses is the lack of focus on a subject at hand for long periods of time. This again is what we refer to as a non-conclusive fractured cluster of raw information with frequent switching from topic to topic. The receiver of information, in this case, reacts to events, instead of digesting and arriving at a conclusion. To educate the new generation to become responsible members of a civilized society requires disciplining of minds. The mind is disciplined by rigorous indoctrination in mathematics and the sciences. Mathematics is about theorems, axioms and rules. We previously defined information as a collection of symbols, and to own your personal linked symbols you must use mathematical rules to produce them and these are called axiomatic theorems. Another method in which we can produce a theorem is by using the rules of language to produce a rigorous argument and counter-arguments about concepts. The only sanctuaries, where there is a chance, to reverse the phenomenon that information is equivalent to knowledge, are the institutions of higher education or the classical university. Thus, there is a need to re-examine the negative effects of total distant learning in educating young generations, and its potential role in training an individual in specific areas. There are universities and colleges that currently fit the model of a classical university, but they are limited in number.

By classical university, we mean a place other than one's home or place of work, where a unique group of knowledgeable professionals create the environment and another group of individuals who are seeking knowledge are gathered for such transaction. The classical university offers diversified fields of knowledge in a single location and it is a market place of ideas, where a student of engineering could interact with students from a variety of fields such as physics, philosophy, biology, mathematics and psychology and become wise while perfecting the understanding of his/her specialized field. On the other hand, by virtual or online university we mean that individuals are isolated in separate locations with a computer, where he/she receives instruction and has no social interaction or face to face conversations in an educational sense. To illustrate the difference between the two, let us assume that an individual is hungry and is looking at the television screen and sees a well prepared visually attractive meal. This will cause the typical reaction of him wanting to eat the meal. Now consider an individual who is surrounded with others prepare the same meal in a kitchen and then sits around a table consuming the food and engaging in conversations. In the first case, the individual just satisfied his hunger, while in the second case, the food, aroma, environment, conversations and many other inputs that we can imagine will form a lasting memory either to cherish or curse. The virtual observation is very similar to what Plato calls *eikasia*, the lowest form of cognition. Besides these two education mediums, the other possibility is what is often referred to as hybrid

education, where some courses designed for training are offered online and some are taken on campus grounds.

Keeping in mind that the final outcome of education is the transformation of individuals to become perfect masters in their art, to attain social consciousness and to gain wisdom, we can define the process of education as a journey through the following stages.

1. Learn the art of gathering information
2. Apply innate common sense to classify and focus on the topic at hand
3. Explore the laws developed in the field by masters and pioneers to find relationships between parameters of information gathered and apply analytical tools to draw conclusions
4. Prove experimentally in the real world that the abstract can be projected and become real.

The outcome of education can be summarized by three processes. The first is transformation by fostering growth, the second is imparting knowledge of a specific field and the third is teaching mannerism and social responsibility through ethics, literature and leadership. Educational process cannot be modeled as an isolated phenomena taking place on university grounds, but must be looked upon as having a complex relationship to social environment and as one that is not limited to a certain time frame. Let us examine the social environment of today to define the effect of external social and psychological variables on students wanting to pursue higher education.

The information age offers very little to foster intellectual growth. The young and the old generations are wired to the virtual domain that entertains senses, but offers no tangible means for intellectual growth. The discrete world of digital domain has crept into our consciousness and we are bombarded by a series of discrete, non-axiomatic facts. Globally, consumers of information see the world through the lenses of “experts”; who dictate a point view rather providing adequate background information for individual to use and arrive at an intelligent conclusion. Before arriving to college, students are experts in the art of cutting and pasting for reports and know how to manipulate their calculators to get right numerical answers. None of the above will foster intellectual growth, because the latter will be accomplished only when the brain is engaged in analytical thinking.

The second outcome of education is to impart knowledge. As previously defined, knowledge is a state of mind where clusters of information linked by intelligence produce ideas to further refine and formulate the conclusions derived from logical sifting of information. This format of perceiving the universal truth requires maturity and experience. The group of individuals that can be referred to as masters, professors or seers can transfer the art of passage to knowledge to arrive at a state called the “knowledgeable”. Any form of transfer requires conditions for perfect transaction. The conditions are numerous, amongst them is the place of transaction, the fertility of the receiving agent (student), the social value attached to arriving at such a state and the desire of the seeker to attain such a state, to list just a few.

Finally, the third outcome is to foster social responsibility. As in allegory of the men of cave, this cannot be achieved by focusing on information gathering and intelligence only. Similar is the case for men and women of iPhone, who tend to isolate rather than integrate. Such leads to a mentality that an aerial strike obliterating hundreds of lives appearing black and white on screen is no different than display of fireworks on a screen with colors. Both catch the eye; one as insignificant gray and the other colorful and celebratory only exciting the visual cave of the mind like a shadow distant from reality. On the other hand, the university is a place where the integration of ethics, music, art, and sciences not only teach the pupils how to acquire knowledge in a specialized field but also how to become useful citizens and become just leaders.

## **Purpose of Education**

Educators have a great influence on the younger generations from their childhood to adulthood. It is, thus, important to determine what constitutes success as an educator and to assure that educators strive to achieve these specifics. The following values and qualities are essential to be instilled in students and these measure the quality of higher education institutions:

1. The ability to problem solve
2. The love for learning
3. The responsibility of promoting social progress.

One element that is certain in our dynamic world is that there will always be change and adaptability is essential to succeed. Changing environments yield new problems to solve and the student who can devise innovative strategies is one who has carved his road to success. Problem solving requires creativity and a foundation of diversity in both content and experiences. For example, a biologist trying to prove a theory may revert to proof by induction introduced by his mathematics professor. The out of the box thinking oftentimes yields to a solution, whether on the job or in academia. Such problem solving is not an easy skill to teach and in fact it is a skill that is learned indirectly. There is much to be inhaled from an environment in which professors and students are constantly faced with challenges and they discover ways to overcome these challenges using a variety of skills, backgrounds, and specialties. Engaging in discussions and debating techniques are learning tools that a university can provide. Distance learning, however, does not provide this platform because it is void of the interaction of humans. The strategies that are acquired are only those which are the online teacher presents and individual creativity or independence is not developed. What is more detrimental for students is that as further challenges arise in the changing world, they do not have the skill to find solutions on their own; he becomes dependent on other problem solvers.

In his book, *The World is Flat*, Thomas Freidman warns educators that “*What we learn today in school will be outdated by tomorrow, and therefore, the most successful people in the*

*'flat world' will be those who can adapt and learn quickly. The greater our curiosity and passion for learning, the greater chances we will have for success later in life."* Education is never complete and students should be encouraged to continually learn in order to ensure continual growth. The content of learning will no doubt change as it fits within one's life. The ambition to increase one's knowledge and learn from others in any aspect of life promotes humility, respect and diversity. A university environment consists of individuals who are passionate about their work in their field. Doctorate students spend years researching on a single idea or hypothesis without tiring because of their passion for the subject. Teachers have a passion for teaching and present their lectures in various methods with the goal of connecting, instructing and inspiring their students. If a student, amongst passionate educators and peers in a university, can develop a love for learning, his growth will never cease as he will always find something new to learn. Technology has done a good job in promoting acquisition of information, but this is not to be confused with learning. There is no doubt that one can immediately find an answer to a question, confirm a fact, find detailed information on a topic simply by surfing the World Wide Web. Such easy access increases our curiosity thus making the 21st century the age of information, but does not necessarily promote educating an individual as is defined above. One study has found that people visit sites on the Internet as a skimming activity, hopping from one source to another and rarely returning to any previously visited site. It is questionable how much information a person even retains.

The essential goal of educating young adults is to develop global and socially responsible citizens, for it is the younger generation that will become the new leaders of the world. Global citizenship encompasses cultural empathy, respectful decision making and awareness of others' needs and desires. If young adults are glued to their screens and smartphones, their observation of their world is limited. The screen is what dictates their perception of their world rather than the world itself. It is essential that educators realize the limitations and dangers of the age of the iPhone. The university environment, consisting of diversity of thought, exchanges of ideas and self-development, will liberate students with the ability to innovate instead of to accept. These individuals will use their education and intellectual growth for the good of the community around them, whether it pertains to new discoveries or correcting existing problems in society. They are generators of social progress.

## **Conclusions**

The current state of affairs in higher education will degrade the outcomes and will produce a generation of dependent, nonflexible individuals geared to perform robotic task without being innovators in their fields. Men and women of the iPhone have reverted to online learning due to financial concerns and time constraints. The age of technology has blinded individuals to believe that learning can occur from a screen just as the men of the cave

believed that shadows were real. However, it is the academic flavor of the university that produces socially responsible individuals whose wisdom will benefit the community as a whole.

The most important purpose of education is to give the young generation in a social setting a sense of independence, pride, good citizenship, social conduct and many other characteristics defining an educated wholesome person. The process of education must be a liberating experience and the true essence of engineering and science is to learn how to project an abstract idea to reality; in other words, how to become a generator of social transformation. Along with this transformation there must be responsibility and the thorough evaluation that new developments and advancements will benefit all and not just a selfish few. Students of today will become the leaders of tomorrow. True leadership can only be achieved with humility, passion, knowledge and wisdom. These qualities are witnessed and thus fostered in the classical university but not in a place of distant learning.

The arguments presented in this paper must be understood as a proposal for uplifting the overall level of social consciousness through the education system. Today the world of political leaders and leaders managing the organizations which improve lives and minds are focused on a single variable in the complex socio-economical equation -- the economy. From the halls of power down to school administrators the talk is of how to keep industrial superiority and economic growth, rather than how a prosperous and conscientious society can be built. This tendency voids the innate nature of mankind and is counterproductive. Institutions of education have to be independent of industrial complex, but nurture the great minds to advance the growth of science and technology. It cannot act as an agent for training of citizens to further the goals of industry. We must learn to separate the task of educating from training by leaving training to industry and responsible organizations. The task of educating should remain focused on fostering intellectual growth and the development of rich knowledge in its students as it has through centuries. This will build a solid structure atop of which individuals will perfect different sciences and contribute in building of economically prosperous societies. It is only logical that thinking and informed individuals are fit for the task of advancing the human society to the next level.

## References

Carr, Nicholas G. *The Shallows: What the Internet Is Doing to Our Brains*. New York: W.W. Norton, 2010. Print.

Carr, Nicholas. "Is Google Making Us Stupid?" *The Atlantic*. 2008. Print.

Friedman, Thomas L. *The World Is Flat: A Brief History of the Twenty-first Century*. New York: Farrar, Straus and Giroux, 2005. Print.

Plato, and Francis Macdonald Cornford. *The Republic of Plato*. London: Oxford University Press, 1945. Print.