

**THE COMING STORM: DIGITAL NATIVES WILL REDEFINE THE
NATURE OF LEARNING AND THE FUTURE COURSE OF
INSTITUTIONS.**

Presented by

FUSION VIRTUAL
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ABOUT THIS STUDY:

This project is led and coordinated by Alex Berger, the founder and Chief Executive Officer of FusionVirtual. Berger is a digitally-literate, self-directed Millennial with trans-generational experience and perspective. In 2003, he began sharing his insights into the ways institutions have to change to be viable. He shared his extensive knowledge of advancements in information availability, and breakthroughs made by the online gaming community in the use of virtual environments. His honors thesis, *Not Just A Game: How On-line Gaming Communities Are Shaping Social Capital*, was circulated and verified by many leading educators and business leaders. His blogs and communications on his *VirtualWayfarer.com* site have kept him at the leading edge of change. He is an accomplished lecturer and delights in sharing his insights into the future.

As one of the most disciplined of the digitally literate, information-age leaders, Berger gathered together educators and business leaders and charged them with helping him focus FusionVirtual's role in defining not only the future of institutions but, perhaps most important, identifying structural inhibitors to change. He stated that this must be done so leaders know how to make their way in the digital-information age.

INTRODUCTION:

"In human history there has never been a time when the difference between generations has been so vast. In the last two decades computer literate, digitally skilled, information-age youth have begun to function in ways never before imagined. They are developing a new operating system for the acquisition and application of knowledge. They are changing our understanding of how things work and how things can be.

The generational differences that divide the past from this new present are so extreme that those with pre-digital, pre-information age mindsets must replace their outmoded literacy with new information. If they do this, they will be able to communicate with their children and function in the world as it is now."

E.F. Berger, Ed.D. 2008

This quote from an educational leader may seem extreme to those who have not rethought the foundations of their knowledge and begun their process of reeducation.

Let's examine an example of significant change: Up until a decade ago – the 1990s – some group, a religion, an institution, or a professor controlled information. Whether it was locked-up by a religious hierarchy, a government, or an institution of higher education, it was controlled and doled out to those deemed worthy. Within what

can be described as an instant in human time, through the Internet, information of all types became available to anyone with basic computer skills. As technology has advanced institutions and individuals have quickly begun to forfeit sole access and control. Those institutions or governments that try to limit what their subjects can know are fighting a losing battle for control. While the degree of their success varies widely, they will destroy the lives of countless people before they learn that regardless of the actions they take, they are delaying the inevitable. The reality of complete control is dead and has been replaced by the myth of absolute control.

This one major change in what and how we can learn has shaken institutions and governments to their roots. Institutions up to this time were able to control the way people thought by limiting their access to information or setting themselves up as authorities due to their privileged access to “truth.” Although many institutions continue to function as if they have exclusive rights to information, their death-knells are too loud to ignore.

Higher educational systems everywhere are institutions unable to continue as designed. All are based upon one-way communication. Even those few that attempt to be interactive still rely on conveying information that is limited to the knowledge and intent of the tellers and the curricula. Digitally literate individuals cannot – will not – function in these outmoded schools. Learning has jumped over the barriers of past practices and a whole new threshold of knowledge has been crossed.

Epistemology is being redefined. Credits, degrees and measures of academic mastery no longer have the same meaning because the information they were based on has been shown to be too limited or skewed.

NOTE: The ways modern generations are able to communicate have increased as never imagined. The effects of web technology on social inter-relationships have perhaps more impact on society than the changes brought about by the invention of the telephone at the beginning of the last century. In a future position paper we will address the schism this has created between generations and identify ways for leaders to bring their organizations into the Communication Age.

THE MASTERY OF FOUNDATIONAL SKILLS IS ABSOLUTELY REQUIRED:

The training aspects of schooling focus on essential skills which must be mastered. Most of these skills are developed in the early or elementary grades. However, training aspects are part of every level of learning. For example, the skills needed to access, analyze and apply law precedents are not taught in elementary school. They are part of the ongoing study of law. Training and mastery of skills is the key factor in the use of knowledge. Information without the learned skill sets necessary to analyze and evaluate the authenticity of data is useless.

Upcoming generations of learners must be encouraged to explore tasks – learning to read, write, and compute, using the scientific method, plumbing a house, building a device, preparing a meal, and so forth. With the mastery of foundation skills they have an unlimited ability to access knowledge that will allow them to gather and combine sources of information and apply what they have learned to solve problems or gain greater understanding.

We can access information far beyond what the brightest minds could access only a decade ago. To do that, the educational institutions must ensure student mastery of foundation skills, ensure self-direction through self-discipline, and inculcate ‘universal’ social and cultural values. For example, in the US, this is known as “Americanization.”

Dr. Mark Jacobs, Dean of the Barrett Honor College at Arizona State University, stresses that true education must be interactive. We agree. We clarify this concept by adding that reading a book and answering the questions at the end of a chapter may help one pass a test, but only through active discussion and practical application, where learners must demonstrate their ability to turn the concept in their heads and apply it to other situations, does true education take place. Berger’s point of view is that listening to a ‘teller’, reading a book, viewing a PowerPoint, or going through copious information on the Internet and then “passing the course” by answering questions is not the way education works best. What works is the interaction between students and teachers, students and students, students and research resources, and students and scholars from anywhere they can be found, within set parameters that require the application of all that information to real problems and situations.

THE CHALLENGE:

One might assume that institutional changes are so obviously necessary that those in leadership positions will redirect their organizations to serve the new types of learners. In fact, many leading institutions have begun to make necessary changes. Whole bodies of knowledge once controlled by academic institutions which, in essence, charged for the selective release or access to this information, are available to anyone through the Internet. Many institutions of higher learning are examining the use of virtual space and avatars to enhance educational opportunities.

Increased access to once carefully protected research and knowledge has resulted in combinations of data that was previously impossible. The economics of this type of change is of great concern. If a university cannot charge for access to information or access to those who have spent their lives researching new insights, then what can they charge students for? What is their role?

THERE IS NO PLACE TO STAND AND VIEW OUR SYSTEMS WITHOUT PRECONCEIVED NOTIONS AND BIAS. WE MUST SEE THE BIG PICTURE.

To bring about the changes that will make systems and institutions viable, leaders and those who deliver the services must stand back and rethink and often redefine the structures they work within. In education that is very difficult. The conglomerate institution called education is vast, petrified by administrative facility, and peopled by workers who are reluctant to change. Political influences add to the dysfunctional aspects of schools. A century or more of habit, custom and self-protection supports an argument that, "It was good enough for me, it's good enough for them."

Some argue that the seeds of a nation's destruction are within it. This is especially true of a nation that depends on a trained and educated populace. It is no surprise that in the U.S. those areas that are most regressive are the regions with skewed educational standards and inflexible religious strictures.

To assume that any amount of credible information will bring about change is naive. Many institutions and systems must be bypassed. Unable to deliver what is required, they will wither and die. It is no surprise that the largest competitor to traditional public and private universities are online higher education programs like the University of Phoenix. And it is not difficult to project that as these online, two-dimensional schools are not interactive, they have short life spans due to the lack of quality of their products.

This is a time of change. Those who do not identify their product and the nature of the students they work with, as well as the availability of information and the skills necessary to deal with it, not only kill their institutions, but severely damage the Nation. We must adapt and utilize a worldwide scope of knowledge. We must prepare students to interactively process, evaluate, and make a contribution by applying their knowledge.

INSTITUTIONAL CHANGE AND AMERICAN EDUCATION:

There are phenomenal numbers of critiques of America's schools. Few of these articles differentiate between elementary, middle, high school, and college, (although colleges are more often treated separately). Most articles reference schools as if they were all doing the same thing and need the same fix to be effective. Most fail to offer solutions along with their critiques. Unless each level of education and each area of subject matter (discipline) is examined and its purpose understood, change is impossible.

For our purpose we assume the reader understands the needs of the different levels of education. It is enough to say that necessary change at the elementary level may be quite different than changes needed in high schools.

We concluded that regardless of the nature of the changes, there are overarching structures, many put in place without consideration of training and educational needs, that block effective ways of serving learners. These are structural problems that affect all levels of education and are not specific to any one level or discipline. Rather than list structural problems that are in the way of effective change, we decided to identify those areas that must be adapted to education in the digital, information age.

As a guide to open, new thinking about overarching structures that inhibit or deny effective education for many children and erode the Nation's need for an educated populace, let's stand back and look at the K-12 structure and select one significant structure that must be changed.

K-12 education is mandatory except some children can opt-out of the system at age 14 (some states age 16) ending their education. With no place to go, these kids are turned loose to run wild in the streets. We understand that at one time kids could drop out because they were needed to work the family farm. Then things changed and there was no demand for unskilled, underage youth. It is interesting to note that in the '40s through '60s the military draft collected many of these young men and educated them. Then the draft ended. Dropouts run wild.

Today our core cities are filled with undirected, poorly educated, dropout youth who are a drain on society. The solution seems obvious. If a child did not survive in the traditional school setting, or if her family was dysfunctional and could not/would not support her, then what is needed to save her and children like her, and our society, are training and acculturation programs not unlike basic training and the Civilian Conservation Corps.

Why haven't programs for these damaged kids been created? Obviously because our society and its institutions are too entrenched and inflexible to change in response to critical issues. Why then will some assume that systemic problems that block what is needed for the digital, information age student be addressed and institutions modified? It would take forces greater than those allowed in a democracy to make it happen. Most institutions are so bound they cannot change. If they are unable to serve a changing population these petrified systems erode the competency of large numbers of citizens and gradually make participatory democracy impossible.

Hopefully, new leadership creates options that by-pass moribund systems. Perhaps through forced redirection? Perhaps through market forces that meet demand?

We believe the battle for change is half won when we are able to clearly identify the structural changes that must be made.

OVERARCHING CHANGES TO OUR THINKING AND MODIFICATION OF STRUCTURES IN THE WAY OF EFFECTIVENESS. BRAINSTORMING AND LISTING MAJOR CHANGES THAT ARE NECESSARY IF INSTITUTIONS ARE TO SURVIVE.

Please note: The following lists are in no particular order. Each identified change can and will have volumes written about it. Herein we simply tag some necessary changes.

The role of the teacher: What must change to meet the needs of digitally literate, information age students?

One-way communication ends replaced by interactive communication.

Teachers connect students to world resources.

Teachers set the learning parameters for specific levels (courses and units within courses).

Teachers keep individuals focused and the assigned group “class” individually centered.

Teachers learn about and provide desired outcomes for each student.

Teachers utilize virtual space as an extension of the classroom and as a way to work with students individually and in groups.

Teachers extend their accessibility through the use of avatars.

Teachers know the essential skills necessary for mastery of taught material and train individuals accordingly.

Teachers identify student mastery of identified data by observing how each student is able to apply the concept to other situations.

Teachers work as part of interdisciplinary teams.

Although training may be done in isolation, the educational programs are always interactive.

Teaching emphasis is on student mastery of basic skills necessary to function in the course, and the application of readily available data, not how to find information.

The nature of evaluation changes – teachers do not use tests to punish or motivate students. Teachers use evaluation (tests of many types) as a diagnostic tool to determine the educational focus for each student.

Teachers (educators) break out of the ‘time block’ system and use time as necessary to meet goals. Time-on-task is determined by the teacher and student, not a set schedule.

Course length, within realistic parameters, is determined by the teacher to address student needs and learning styles.

Teachers build their courses and instruction methods around the Learning Path: Introduction, Association, Involvement, Application, Internalization and Contribution. (Dr. Edward F. Berger)

Teachers are highly skilled professionals. Their time is focused on students and instructional coordination. It is not used for patrolling, policing, or administrative tasks best done by support personnel.

Changing the concept of classroom (place-based) education.

Interactive learning takes place in many learning environments. For example, a dedicated classroom space may be used for face-to-face communication, group, and one-on-one interaction, or it may not be needed.

Lecture halls are replaced/supplemented by presentation areas in virtual space.

Students are grouped by achievement level and need, not chronological age.

Placing every student at a desk, in a room, doing the same thing has no purpose beyond administrative facility.

Virtual space “classrooms” can be utilized for 24/7 instruction and one-on-one instruction.

Virtual space can be utilized for testing and mastery evaluation as well as attendance, tutoring, and socializing.

Students may never enter a “place-based classroom” if their needs are met in monitored studies through the Internet or in virtual environments.

Educational delivery is not determined by proximity to a school classroom – students may be anywhere.

FusionVirtual has presented this position paper to stimulate thought, share ideas, and help leaders identify the directions they must take to serve future generations and our Nation. Our work has just begun.

Alex Berger and the FusionVirtual team.