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Anthony G. Picciano

Text of my talk on - **The Great American Education Industrial Complex: Past, Present and Future**

Hallo aus New York

Thank you for giving me this opportunity to say a few words about the Great American Education Industrial Complex. It is very kind of you.

As background:

The ideological basis for the American education industrial complex is firmly established in principles based on neoliberal, free market capitalism that permeates in a large segment of policy making in all areas including education. The Austrian-born economist Friedrich Hayek and American economist Milton Friedman were major proponents of neoliberal approaches that have called for increased privatization of many services including military, health, prisons and education for decades in the United States. Neoliberalism also espouses technology as an important tool for realizing economic efficiencies in the delivery of government services. It should also be mentioned that neoliberalism is not the domain of any one of the American political parties (Republican or Democrat) but can be found as the basis of policy formulation across party lines. The education-industrial complex focuses on companies, organizations, venture philanthropies, investment firms and individuals who become partners (formal or informal) with major government agencies to promote neoliberal policies, to forward self-interests, and to influence popular opinion to their causes.

For this short talk, I will concentrate on that aspect of the education-industrial complex that has had particular involvement with technology corporations.

PAST

When I first coined the term the "education industrial complex" in 1994, I was concerned about the growing interest on the part of American companies especially those involved in the technology sector. There was movement that American education was beginning to be seen as a major market of computer hardware and software. Long-time players in corporate America such as Apple, IBM, Microsoft, and a host of new education software providers were beginning to push the benefits of education technology even though very little research existed to support their claims. Representatives of these companies were becoming more involved at the national level and began to secure positions in various agencies including the US Department of Education. Newer commercial education service providers such as Pearson and Whittle Communications that espoused technology intensive instruction also emerged on the scene. At this time, much of corporate involvement was done in nuanced and subtle ways. Major venture philanthropies such as Gates, Broad, and Walton emerged which funded specific education initiatives that supported their neoliberal objectives.

Through the early 2000s, schools made major investments in technology with the unbridled growth of the Internet. New federal policies such as No Child Left Behind (in 2001), followed by Race to the Top (in 2009), supported large scale privatization of public education especially technology-supported instruction and the education industrial complex expanded significantly and was very blatant.

By 2013, when Joel Spring and I published our book, *The Great American Education Industrial Complex*, education technology was being integrated into education at all levels some of it keeping up with the advances in technology and a good deal of it promulgated by the companies that had developed close ties with major education policy makers in federal, state, and local jurisdictions. The education industrial complex had gotten so obvious that an article in *Governing States and Localities* (a watchdog group) summarized the Gates Foundation relationship with the U.S. Department of Education as follows:

"Many of the ideas that US Secretary of Education Arne Duncan (2009-2015) pushed states to adopt through Race to the Top, a $4 billion grant fund created by the 2009 federal stimulus law, come straight out of playbooks developed by Gates and other foundations. Top officials were

now shuttling back and forth between the department and the Gates Foundation. Some critics say it's not too great a stretch to say that the Gates Foundation is, in effect, running the US Department of Education." (Greenblatt, Alan, (April 27, 2011). Billionaires in the classroom. *Governing the States and Localities.* http://www.governing.com/topics/education/billionaires-in-the-classroom.html#

SO WHERE ARE WE NOW?

No discussion of the present is complete, without reference to the effects the COVID pandemic has had on all policy including education. In the United States, as in many parts of the world, there was a mass embrace of remote learning and online technology. Face to face instruction was replaced by ZOOM and other synchronous and asynchronous learning platforms. School districts and higher education made massive investments in hardware, software, professional development and online program providers (OPMs) to equip, maintain, and expand digital learning. A slow and evolving move to digitization was accelerated in a way that no one would have predicted. The initial objectives of the education-industrial complex have been realized with schools, colleges, and universities now totally dependent upon digital technology for teaching, learning, administrative, library, and support services. While the first major objectives of the education-industrial have been achieved, it is still active and continues to promote policies beneficial to corporate America and especially those providing technology products and services. However, new goals are evolving and the education industrial complex thrives.

Microsoft, Pearson, and others keep pushing for the standardization of curriculum especially at the secondary school level and some degree at the introductory postsecondary level.

For-profit colleges especially those that were taking advantage of unsuspecting students and subjecting them to burdensome financial aid programs without necessarily providing worthwhile education or careers were supported well during the presidency of Donald Trump (2016-2020) and the US Secretary of Education Betsy Devos. Through agents working mostly in the Federal Government and especially in the US Department of Education, legislation and oversight of these for-profit colleges became less restrictive.

The 2020s and beyond!

As we look to the future and the latter 2020s and beyond, no one can predict exactly what will happen. After all, who predicted in early 2019, how the entire world would change in 2020 and 2021 with the advent of the COVID Pandemic. Regardless we can speculate anew on how major developments will affect education. One major development that is very pertinent to our discussion about the education-industrial complex and especially on the influence of major technology companies is the increasing levels of technology integration based on more closely coupled human-machine interfacing. Digital technologies such as:

Cloud Computing
Artificial Intelligence

are requiring all segments of our society including education to begin to integrate them into basic operations and policies. As we move into the later 2020s and beyond, these technologies will become more mature and will come to dominate how we live and learn. Corporations that provide these services will use the education-industrial complex to promote their ambitions and goals. A major result of these will be large-scale uniformity of academic programs, standardization, and consolidation of education services especially at the secondary and postsecondary levels.

For teaching and learning, the threshold has already been passed where in many of our schools and colleges, teaching online is commonplace. Much of what is currently done in online programs have a good deal of teacher control and interaction. However, increasingly fully online courses using adaptive learning techniques are being developed and will expand so that the human teacher element is reduced and/or converted to that of a tutor with the main instruction being provided by software. These adaptive courses will become the norm in many education institutions.

Cloud administrative systems that lead to uniformity of mission critical applications – course management, financial management, advisement and counseling, and library services are evolving. In the United States, there have already been a number of college mergers in Georgia, Minnesota, Wisconsin, Pennsylvania and soon Connecticut where 12 community colleges will be

merged into one institution with a single administrative structure. This is made possible by cloud technology applications that allow for rapid and extensive access to data files on students, faculty, finances, etc.

Research will be rethought.

In 2017, Raj Chetty led a team of researchers from six major American universities and three US Government Agencies to conduct a study on the social mobility of college students in the United States. The number of subjects in his study was 30 million students who attended college from 1999 to 2013. It is possible that large-scale studies of this type will come to dominate social science research in the years to come. This type of research is not possible without the large-scale integration of national databases that increasingly will be made available in the cloud.

In 2021, the journal *Science* announced that its "Breakthrough of the Year" was the work of artificial intelligence programs DeepMind and RoseTTAFold which "are leading the world in predicting protein structures, the building blocks of life". One year ago, AI [software programs were the first to model the 3D shapes of individual proteins](). This summer, AI researchers working with AI programs assembled a near-complete catalog of human protein structures. Something that had never been done before. In the future, many science projects such as these will be conducted by teams of researchers across a number of institutions WITH THE LEAD RESEARCHER being an artificial intelligence program.

In sum, in the 2030s, we will see the emergence of large-scale education centers and service portals providing decentralized learning experiences for students, faculty and staff.

Existing online institutions such as Western Governors University – almost 150,000 students and the University of Southern New Hampshire – 135,000 students are emerging examples of the large-scale centers delivering instructional, administrative and support services centrally using digital services.

Michael Crow, the president of Arizona State University, a major provider of online learning and an enrollment of 75,000 students when asked about the future of higher education, indicated: "Only through massive application of new technologies can the academy both keep up with worldwide trends and maintain its record of excellence.   This is accomplished by embracing the breakthroughs of the digital era and through active collaboration "with leading venture capitalists and investment advisors to source, fund, pilot, and credential higher education technology companies?"

And the education-industrial complex will be stronger than ever.

In closing, I advise that you keep your attention focused on the education-industrial complex and technology. Whatever you do, do not ignore it!

Dankeschön