Our Children @ Risk

"Children have a basic right to live in environments that promote their social, emotional and intellectual well-being. They have the right to grow up, and parents have the right to raise them, without being undermined by greed."

Susan Linn

Parents Across America has developed a position paper and associated informational materials which detail a number of concerns about the invasion of EdTech* into our schools, and which we have collected under the title, "Our Children @ Risk."

This document is an annotated bibliography of resources we used to inform our position paper and materials. References to the outline letters and numbering below are used parenthetically throughout the informational materials to indicate the corresponding supportive research, documentation, expert opinion, and anecdotal and other background information. There is some overlap in the categories, and, of course, many of the sources quoted address more than one area of concern.

A. Effect on children's mental/emotional health

B. Impact on student learning

C. Physical effects – screen time

D. Physical effects – vision

E. Physical effects – sitting

F. Effects on schooling

G. Questionable effectiveness of EdTech

H. Constant testing/lack of informed consent

I. Privacy issues

J. Who benefits?

We use the term EdTech to cover the many terms and buzz words associated with digital learning.

A. Effect on children's mental/emotional health

1. Kids and Screen Time: What Does the Research Say?

Juana Summers   *National Public Radio*   August 28, 2014

http://www.npr.org/sections/ed/2014/08/28/343735856/kids-and-screen-time-what-does-the-research-say

"Kids are spending more time than ever in front of screens, and it may be inhibiting their ability to recognize emotions, according to new research out of the University of California, Los Angeles. The study, published in the journal *Computers in Human Behavior*, found that sixth-graders who went five days without exposure to technology were significantly better at reading human emotions than kids who had regular access to phones, televisions and computers."

2. The Four Negative Side Effects of Technology

Pamela DeLoatch   *Edudemic*   May 2, 2015

http://www.edudemic.com/the-4-negative-side-effects-of-technology/

"Technology changes the way children think and feel, and can negatively impact their privacy and safety as well as their physical health. It's therefore crucial to minimize the negative consequences that can accompany technology use by children."

3. "Children's screen viewing is related to psychological difficulties irrespective of physical activity."

Page, A. S., Cooper, A. R., Griew, P., & Jago, R. (2010). Pediatrics, 126(5), 1011-1017.

http://pediatrics.aappublications.org/content/early/2010/10/11/peds.2010-1154?sso=1&sso_redirect_count=1&nfstatus=401&nftoken=00000000-0000-0000-0000-000000000000&nfstatusdescription=ERROR%3a+No+local+token

"Children with 2 or more hours of daily screen time are more likely to have increased psychological difficulties, including hyperactivity, emotional and conduct problems, and difficulties with peers."

4. Screentime is Making Kids Moody, Crazy and Lazy

Victoria Dunkley, MD   *Psychology Today*   August 18, 2015

https://www.psychologytoday.com/blog/mental-wealth/201508/screentime-is-making-kids-moody-crazy-and-lazy

"Children's brains are much more sensitive to electronics use than most of us realize. In fact, contrary to popular belief, it doesn't take much electronic stimulation to throw a sensitive and still-developing brain off track." Some problems with screen time include: **"Screen time disrupts sleep and desynchronizes the body clock**…desensitizes the brain's reward system…produces light at night…induces stress reactions… **overloads the sensory system**, **fractures attention**, and depletes mental reserves…reduces physical activity levels and exposure to "green time"…"

5. The Commercialization of Childhood and Children's Well-Being

Susan Linn   Paediatr Child Health Vol 15 No 4 April 2010

"The more babies and toddlers engage with screens, the less time they spend in creative play and interacting with parents – two activities known to be educational .

"Given the potential harms of commercialized culture, it is certainly important for health care providers to educate parents about the potential negative effects of media and marketing on children, and work with parents to limit children's access to screen media."

"Children have a basic right to live in environments that promote their social, emotional and intellectual well-being. They have the right to grow up, and parents have the right to raise them, without being undermined by greed."

6. Screen time is linked to sleep disturbances: *Extensive television viewing and the development of attention and learning difficulties during adolescence.*

Johnson, J., Brook, J., Cohen, P., & Kasen, S. (2007). Archives of Pediatric and Adolescent Medicine, 161 (5), 480-486.

http://www.drdouglas.org/drdpdfs/BGBEW_JoCaM_2011.pdf

"This study showed that early lack of sleep may influence health-related variables in multiple domains. For instance, sleep may negatively influence children's school performance (e.g. due partially to potential increases in attention problems), social relations (e.g. more aggressive), and health (e.g. higher BMI).

"These findings can be partially explained using the displacement hypothesis (Neuman, 1995). Recall that this hypothesis predicts that when children use media, it replaces time given to other activities (e.g. studying, free play, sports, etc). The results from the current study support this

hypothesis by showing that screen time was negatively related to later sleep. In other words, as screen time increases sleep time decreases, suggesting that the amount of sleep is displaced by extended screen time."

7. Books v. Screens

Musical Media for Education September 24, 2014

http://musicalmediaforeducation.tumblr.com/post/98307940646/books-v-screens

Screens promote passive reading, interrupt brain processing, discourage neural networking, encourage isolation, and promote controlled content and commercial interests.

8. Big Data: A Paradigm Shift in Education From Personal Autonomy to Conditioning Towards Excessive Consumerism

Peter Hensinger   *Children's Health*   March, 2015

http://kompetenzinitiative.net/KIT/wp-content/uploads/2016/02/Hensinger_BigData_Education_160120_web.pdf

"Critical voices point to the consequences for the healthy development of children associated with the use of digital media if started too early. Today measurable consequences show interference with brain development, risk of addiction, loss of the sense of reality and self-control, and burnout. Educational institutions must consider these risks and develop educational concepts that show a path to media maturity instead of media dependency as promoted by industry."

B. Impact on student learning

9. Extensive television viewing and the development of attention and learning difficulties during adolescence.

Johnson, J., Brook, J., Cohen, P., & Kasen, S. (2007). Archives of Pediatric and Adolescent Medicine, 161(5), 480-486.

http://www.ncbi.nlm.nih.gov/pubmed/17485625

"Youths who watched 1 or more hours of television per day at mean age 14 years were at elevated risk for poor homework completion, negative attitudes toward school, poor grades, and long-term academic failure. Youths who watched 3 or more hours of television per day were the most likely to experience these outcomes. In addition, youths who watched 3 or more hours of television per day were at elevated risk for subsequent attention problems and were the least likely to receive postsecondary education."

"Toddler screen time is associated with problems in later childhood, including lower math and school achievement, reduced physical activity, and victimization by classmates."

10. Prospective Associations Between Early Childhood Television Exposure and Academic, Psychosocial, and Physical Well-being by Middle Childhood

Pagani, Fitzpatrick et al, Archives of Pediatric and Adolescent Medicine, 164(5), 425-431

http://archpedi.ama-assn.org/cgi/reprint/164/5/425.pdf

The remarkable childhood intake of mass media has evoked interest in its potential impact, with most studies suggesting negative effects.[4],[5] Common sense would suggest that television exposure replaces time that could be spent engaging in other developmentally enriching activities and tasks that foster cognitive, behavioral, and motor development. This idea has been empirically supported in adolescent populations.[6]-[11] Studies have also underscored exposure time as a risk factor for unhealthy lifestyle habits in school-age youth, predicting less than optimal physical activity, body weight, and[12] fruit and vegetable intake,[13] consumerism,[14] and tobacco and alcohol use.[15]-[17] Results regarding academic performance have been mixed, with more recent studies suggesting hazardous effects of overexposure.

Television exposure almost invariably starts in early childhood.[3] Indeed, broadcasting has an educational orientation when targeting preschoolers, which might have some cognitive benefits. Nevertheless, preschool televiewing remains a cognitively passive activity at a time when key experiences for developing attention and behavioral self-regulation are expected to occur.[21] Two studies have found long-term, albeit modest, associations between early childhood exposure and socioemotional difficulties at school entry and attention problems in first grade.[22],[23] Another study also found negative effects on verbal and memory skills at ages 6 and 7 for each additional hour of average exposure before 3 years of age.[24]

11. Speechandlanguagekids.com on screen time and delayed language skills

"Children learn to talk and communicate through interactions with other people. That's the way it has always been and that's the way it will continue to be, despite any new technology that comes our way. The first several years of life are crucial for your child's language development. It is when their brain is the most receptive to learning new language and is building communication pathways that will be with them for the rest of their lives. Once that window closes, it is much more difficult for someone to learn and develop language skills.

"Every minute that your child spends in front of a screen is one fewer minute that he could spend learning from your interactions with him or practicing his interactions with you. Screen time takes away from time that could (and should) be spent on person-to-person interactions.

"Communication is about interacting with others, the give and take. The speaker responds to the listener's body language and responses to change and adapt what they are saying. The listener uses non-verbal cues to gain deeper meaning from the speaker's message. There is so much more going on than the list of vocabulary words that the lady in the video is teaching. Videos *do not* replace person-to-person interactions for teaching language or communication."

12. The Reading Brain in the Digital Age: The Science of Paper versus Screens

Ferris Jabr   *Scientific American*   April 11, 2013

http://www.scientificamerican.com/article/reading-paper-screens/

"Even so, evidence from laboratory experiments, polls and consumer reports indicates that modern screens and e-readers fail to adequately recreate certain tactile experiences of reading on paper that many people miss and, more importantly, prevent people from navigating long texts in an intuitive and satisfying way. In turn, such navigational difficulties may subtly inhibit reading comprehension. Compared with paper, screens may also drain more of our mental resources while we are reading and make it a little harder to remember what we read when we are done. A parallel line of research focuses on people's attitudes toward different kinds of media. Whether they realize it or not, many people approach computers and tablets with a state of mind less conducive to learning than the one they bring to paper."

13. Overuse of Technology Can Lead to Digital Dementia

Jessica Gwinn   *Alzheimers.net*   November 12, 2013

http://www.alzheimers.net/2013-11-12/overuse-of-technology-can-lead-to-digital-dementia/

""Digital Dementia," a term coined by top German neuroscientist Manfred Spitzer in his 2012 book of the same name, is a term used to describe how overuse of digital technology is resulting in the breakdown of cognitive abilities in a way that is more commonly seen in people who have suffered a head injury or psychiatric illness. Individuals who rely heavily on technology may suffer deterioration in cerebral performance such as short term memory dysfunction."

14. The Problem with Personalized Learning

Will Richardson   January 16, 2013

http://willrichardson.com/blog/

"I wonder what would happen should, God forbid, children run into learning situations in the world that cannot be optimized for them individually. What if the world changes and the problems that arise just do not afford solutions that fit their sweet spot? What if their sweet spot is just no good for certain types of learning and problem solving? This is the problem with adaptive platforms that attempt to "personalize" learning to each individual's inherent strengths. We don't live in a world where only our inherent strengths make a difference. By eliminating struggle and failure, we risk more than we realize."

15. Young Children and Screen Time

Padma Ravichandran, Brandel France de Bravo, MPH, Rebecca Beaupre   *National Center for Health Research*   2016

http://center4research.org/child-teen-health/early-childhood-development/young-children-and-screen-time-television-dvds-computer/

"Not only has screen time been linked to language delay and smaller vocabularies, but studies show that the more television infants and toddlers are exposed to, the more likely they are to be inactive and obese, have difficulty sleeping, and show aggression."

C. Physical effects – screen time

16. Scientists Raise Concerns about Health Risks with EdTech. How Will The U.S. Department of Education Respond?

Roxana Marachi, Ph.D   *EduResearcher*   January 22, 2016

https://eduresearcher.com/2016/01/22/essa/

"In a press release dated October 14th, 2015, leading expert scientists and doctors from the Environmental Health Trust (EHT) sent an Open Letter to U.S. Department of Education detailing children's unique vulnerability to the health risks of wireless technology and outlined specific steps the U.S. Department of Education can take to safeguard children's health. The letter references accumulated scientific research documenting that wireless radiation, also known as radio-frequency (RF) or microwave radiation, could increase cancer risk and has been shown to damage reproductive systems and alter neurological development."

17. Why Teens Are Impulsive and Addiction Prone and Should Protect Their Brains

Frances Jensen   *National Public Radio*   April 15, 2016
http://www.npr.org/2016/04/15/474348291/why-teens-are-impulsive-addiction-prone-and-should-protect-their-brains

"First of all, then the artificial light can affect your brain. It decreases some chemicals in your brain that help promote sleep such as melatonin. So we know artificial light is not good for the brain. That's why I think people - there have been studies that show that reading books with a regular warm light doesn't disrupt sleep to the extent that using a Kindle does."

18. Readers Absorb Less On Kindles Than On Paper, Study Finds

Alison Flood   *The Guardian*   August 19, 2014

https://www.theguardian.com/books/2014/aug/19/readers-absorb-less-kindles-paper-study-plot-ereader-digitisation

"The network says that "research shows that the amount of time spent reading long-form texts is in decline, and due to digitisation, reading is becoming more intermittent and fragmented", with "empirical evidence indicat[ing] that affordances of screen devices might negatively impact cognitive and emotional aspects of reading"."

19. Selected Research on Kids and Screens

Center for a Commercial-Free Childhood

http://www.commercialfreechildhood.org/sites/default/files/kidsandscreens_0.pdf

"Children spend too much time with screen media and it contributes to childhood obesity, negatively impacts sleep, can undermine learning for babies and young children, can increase psychological difficulties, and can worsen academic performance in adolescence.

"Problems with excessive screen time include: Forms unhealthy habits that extend into later years, psychological difficulties, poor school performance, childhood obesity, sleep disturbances, and delayed language acquisition."

20. In 'Screenagers,' What to Do About Too Much Screen Time

Jennifer Jolly   *New York Times*   March 15, 2016

http://mobile.nytimes.com/blogs/well/2016/03/15/in-screenagers-what-to-do-about-too-much-screen-time/?smid=fb-nytimes&smtyp=cur&_r=0&referer=http%3A%2F%2Fm.facebook.com%2F

"The average child in America spends more time consuming electronic media than going to school, with many teenagers going online "almost constantly." And parents aren't necessarily being good role models. A British study showed that while *six* in 10 parents worried that their children spend too much time in front of a screen, *seven* in 10 children worry that their parents are the ones who are plugged in and tuned out."

21. Facing the Screen Dilemma: Young Children, Technology, and Early Education

Campaign for a Commercial-Free Childhood • Alliance for Childhood • Teachers Resisting Unhealthy Children's Entertainment   October, 2012

http://www.commercialfreechildhood.org/sites/default/files/facingthescreendilemma.pdf

"Based on mounting evidence, we are worried about the harm done to children's health, development, and learning in today's media-saturated, commercially-driven culture. It's clear that both the nature of what children encounter on screens and the amount of time they spend with screens are vital issues. We agree with the American Academy of Pediatrics and other public health

organizations that many young children are spending too much time with screens—and that screen time should be discouraged for infants and toddlers, and carefully limited for older children."

D. Physical effects – vision

22. The Digital Eye Strain Report 2016

The Vision Council

http://www.thevisioncouncil.org/digital-eye-strain-report-2016

"Prolonged periods of use appear to exacerbate symptoms of eye strain as 96 percent of Americans who experience digital eye strain spend two or more hours each day using devices. A combination of factors foster the onset of digital eye strain, including the proximity of the screen, the frequency and duration of use and the degree of exposure to high-energy visible (HEV) or blue light emitted by video screens."

23. Time to create classroom computer safety guidelines

Cindy Eckard   *Washington Post*   March 14

https://www.washingtonpost.com/blogs/all-opinions-are-local/wp/2016/03/14/time-to-update-classroom-computer-safety-guidelines/

"Myopia — permanent nearsightedness — is reaching epic proportions in this country and worldwide. The cause? Screen time, according to the University of Southern California, which has just completed the largest study ever done. Childhood myopia has doubled in the United States in the past 50 years, and experts have identified increased use of digital devices as the major culprit. Screen time brings blue light emissions as well. That can ruin young eyes because that nasty damaging ray goes right to the back of a child's eye, which doesn't have the ability to protect itself because of a lack of pigmentation. Because they are still growing, children's eyes are more vulnerable than adults'. According to experts, the potential for early macular degeneration, which leads to blindness, is real. The blue light keeps children up at night, too, by reducing melatonin."

E. Physical effects – sitting

26. What Are the Risks of Sitting Too Much?

James A. Levine, M.D., Ph.D. *Mayo Clinic*   September 4, 2015

http://www.mayoclinic.org/healthy-lifestyle/adult-health/expert-answers/sitting/faq-20058005

"One study compared adults who spent less than two hours a day in front of the TV or other screen-based entertainment with those who logged more than four hours a day of recreational screen time. Those with greater screen time had: A nearly 50 percent increased risk of death from any cause (and,) about a 125 percent increased risk of events associated with cardiovascular disease, such as chest pain (angina) or heart attack."

27. Here's Just How Bad Sitting Around is For You

Maggie Fox   *NBC News*   June 16, 2014

http://www.nbcnews.com/health/cancer/heres-just-how-bad-sitting-around-you-n132471

"A new study puts some precise numbers on the different types of cancer that might be associated with too much sitting around can do. For every two hours spent sitting in front of the computer or television, the average person raises his or her risk of colon cancer by 8 percent, of endometrial cancer by 10 percent and of lung cancer by 6 percent."

28. The impact of prolonged sitting on vascular function in young girls

McManus, Ainslie et al http://www.ncbi.nlm.nih.gov/pubmed/26370881

"Children are spending more than 60% of their waking day sedentary. The consequences of excessive sedentary behaviour are not well understood in the child, but there is growing evidence that with increasing sedentary time, cardiovascular risk in childhood also increases. What is the main finding and its importance? Our findings show that a 3 h period of uninterrupted sitting causes a profound (33%) reduction in vascular function in young girls. Importantly, we also demonstrate that breaking up sitting with regular exercise breaks can prevent this."

29. from Standupkids.com

The average U.S. student is sitting an average of 4.5 hours per day at school and (for kids 8-18) an additional 7 plus hours per day in front of a screen, regardless of socio-economic status. Combine that with the time spent doing homework, sitting at the dinner table, and driving to and from school, and our kids are spending nearly 85% of their waking hours in sedentary positions.

The problem is so bad that medical experts now equate sitting with smoking, saying that sitting as little as two hours continuously increases the risk for heart disease, diabetes, metabolic syndrome (including diabetes), cancer, back and neck pain, and will literally shorten you life....tacking on regular exercise to an otherwise sedentary life doesn't overcome the negative effects of too much sitting. We must create ways for children to be continually moving more throughout the day.

30. What are the risks of sitting too much?

Dr. James Levine for Mayo Clinic

http://www.mayoclinic.org/healthy-lifestyle/adult-health/expert-answers/sitting/faq-20058005

One study compared adults who spent less than two hours a day in front of the TV or other screen-based entertainment with those who logged more than four hours a day of recreational screen time. Those with greater screen time had:

- A nearly 50 percent increased risk of death from any cause
- About a 125 percent increased risk of events associated with cardiovascular disease, such as chest pain (angina) or heart attack

F. Effects on schooling

31. The Overselling of Ed Tech

Alfie Kohn   *Alfie Kohn*   March 12, 2016

http://www.alfiekohn.org/blogs/ed-tech/

"If you haven't given much thought to the kind of intellectual life we might want schools to foster, then it might sound exciting to "personalize" or "customize" learning. But as I argued not long ago, we shouldn't confuse *personalized* learning with *personal* learning. The first involves adjusting the difficulty level of prefabricated skills-based exercises based on students' test scores, and it requires the purchase of software. The second involves working with each student to create projects of intellectual discovery that reflect his or her unique needs and interests, and it requires the presence of a caring teacher who knows each child well."

30. Netflix Billionaire Reed Hastings Crusade to Replace Public School Teachers with Computers

Steven Rosenfeld   *Alternet*   March 3, 2016

http://www.alternet.org/education/netflix-billionaire-reed-hastings-crusade-replace-public-school-teachers-computers?akid=14027.103752.EQd2lq&rd=1&src=newsletter1051814&t=2

"The notion that higher test scores are the best way to track student accomplishment is controversial in itself. Many educators argue that there's far more to learning. Nonetheless, Rocketship believes the best way to educate poor kids is to put 150 young students in front of computers for hours at a time, in large lab classes where there are more technicians than experienced teachers. The curriculum's emphasis is on correctly answering questions, which, as *Education Weekly* and the *Mercury News* reported, created so much pressure on students that many became sick. As Cody notes, this approach minimizes what traditional teachers believe is necessary—the transmission of

developmentally appropriate interpretation, communication and social skills, as well as paying personal attention to students whose home lives may be filled with factors complicating their ability to learn."

31. The Problem with High-Tech Personalized Learning Tools

Sabrina Joy Stevens   *Washington Post*   March 13, 2013

https://www.washingtonpost.com/news/answer-sheet/wp/2013/03/13/the-problem-with-high-tech-personalized-learning-tools/

"Language-check: what many of these people are selling as "personalized" learning is actually digitized *standardized* learning. Creating tools and products that offer digital ways to deliver drill-and-kill instruction is not revolutionary. Attaching that to a large bank of flawed, standardized data merely automates and speeds the process of selecting those drill-and-kill activities and marketing more of them to teachers, students and parents. But making it easier to do more of a problematic thing does not make that thing less problematic."

32. Recess Vs. Online Social-Emotional Learning

Nancy Bailey   *Nancy Bailey's Education Website*   March 13, 2016

http://nancyebailey.com/2016/03/13/recess-v-online-social-emotional-learning/

"That's right. They want more ed. tech for social-emotional learning. Most of us argue that technology cannot take over a classroom, or replace a teacher, *especially* because of the social interactions that take place there. While online instruction might provide some learning, mostly rote, children need social-emotional relationships. They need to mingle with other students. That's hard to do when you are sitting alone at a computer. Even if a child connects with another child (some aren't real kids) online, it isn't the same as a real relationship. The best place for young children to socialize is recess!" "Children learn best by *doing not viewing.*"

33. 21 Concerns About Special Education and CBE

Nancy Bailey   *Nancy Bailey's Education Website*   January 29, 2016

http://nancyebailey.com/2016/01/29/21-concerns-about-special-education-and-competency-based-education/

"Online instruction has a place in the classroom. But putting students with disabilities online for the bulk of their schooling does not make sense. That seems to be the intent of CBE."

34. Here Comes Personalized Learning

Diane Ravitch   *Politico Education*   March 8, 2016

http://dianeravitch.net/2016/03/08/here-comes-personalized-learning/

"As we have seen again and again, in the rhetoric of the Gates Foundation, Mark Zuckerberg, and assorted tech entrepreneurs, "personalized learning" means learning on a machine. In typical corporate reform talk, where up means down and reform means destruction, personalized means impersonalized."

35. Funding increase for online preschool program to benefit up to 7,800 kids

Benjamin Wood   Salt Lake Tribune   March 29, 20160411

http://www.sltrib.com/home/3713857-155/funding-bump-makes-online-preschool-program

"(E)arly education experts have suggested the online format falls short of the providing social and emotional skills that a child would develop in a traditional preschool setting.

"Steven Barnett, director of the National Institute for Early Education Research at Rutgers University, told the Washington Post in October that Utah's approach represented the "wishful thinking" of achieving the gains of preschool without spending the money."

"They've selected their outcomes that they are likely to achieve," he said, "and it's probably safe to assume that impacts on the others are zero."

G. Questionable effectiveness of EdTech

36. New Interest, Old Rhetoric, Limited Results, and the Need for a New Direction for Computer-Mediated Learning

Noel Enyedy   *National Education Policy Center*   November 2014

http://nepc.colorado.edu/files/pb-personalized-instruction.pdf

"However, despite the advances in both hardware and software, recent studies show little evidence for the effectiveness of this form of Personalized Instruction. This is due in large part to the incredible diversity of systems that are lumped together under the label of Personalized Instruction. Combining such disparate systems into one group has made it nearly impossible to make reasonable claims one way or the other. To further cloud the issue, there are several ways that these systems can be implemented in the classroom. We are just beginning to experiment with and evaluate different implementation models—and the data show that implementation models matter. How a system is integrated into classroom routines and structures strongly mediates the outcomes for students. In light of recent findings, it may be that we need to turn to new ways of conceptualizing the role of technology in the classroom—conceptualizations that do not assume the computer will provide direct instruction to students, but instead will serve to create new opportunities for both learning and teaching."

37. Why Mark Zuckerberg Wants to Spend on Personalized Learning

Haley Sweetland Edwards   *Time Magazine*   December 2, 2015

http://time.com/4132619/mark-zuckerberg-personalized-learning/

""There is no good evidence that online or blended learning works to improve teaching or leads to real personalized learning," Leonie Haimson, who co-chairs the Parent Coalition for Student Privacy, told TIME in an email. "Instead this is really depersonalized learning through machines." Haimson argues that personalized learning tools are detrimental to the development of students' critical thinking skills, since they reduce human interaction in the classroom."

38. Who really benefits from putting high-tech gadgets in classrooms?

Michael Hiltzik LA Times Feb. 2, 2012

In 2009, the (federal) Education Department released a study of whether math and reading software helped student achievement in first, fourth, and sixth grades, based on testing in hundreds of classrooms. The study found that the different in test scores between the software-using classes and the control group was not statistically different from zero. In sixth grade math, students who uesd software got lower test scores – and the effect got significantly worse in the second year of use."

39. Is the Latest "21st Century Learning" Cant More Illusory than Real?

Paul W. Bennett   *Educhatter*   July 6, 2014
 https://educhatter.wordpress.com/2014/07/06/personalized-learning-is-the-latest-21st-century-learning-cant-more-illusory-than-real/

"Betting big on Personalized Learning believing it will improve student learning is foolhardy in the face of cognitive science evidence to the contrary."

40. Study of CPS shows in-person remedial classes better than online

Lauren Fitzpatrick   Chicago Sun-Times April 11, 2016

http://www.pressreader.com/usa/chicago-sun-times/20160411/281608124592803

"More than half – 53 percent - of students in the face-to-face course earned an A, B or C compared with just 31 percent of students in the online course. Those in the traditional classroom were 10 percentage points more likely to pass than those studying online – 76 percent versus 66 percent. The online students found their courses more difficult and less clear on grading expectations than kids with the face-to-face teacher. They also reported less confidence in math. In this case, the online credit recovery cost more than the face-to-face course because the teachers involved were paid their regular rate to teach the class or serve as a mentor for the kids studying online."

41. State of the Art Education Software Often Doesn't Help Students Learn More

Jill Barshay   *The Hechinger Report*   June 20, 2016

http://hechingerreport.org/even-high-end-education-software-gets-mixed-results-improved-learning/

"What SRI found was sobering. In most cases, students didn't get higher grades from using adaptive-learning software, nor were they more likely to pass a course than in a traditional face-to-face class. In some courses the researchers found that students were learning more from adaptive-learning software, but even in those cases, the positive impact tended to be "modest"."

42. Maine State Board of Education Member Speaks out AGAINST Competency Based Education

New Hampshire Families for Education   April 20, 2015

http://nhfamiliesforeducation.org/book/export/html/727

"The driving force behind this educational transformation is the Nellie Mae Foundation. They heavily funded Non Profits in Maine to carry their water. Great School Partnership got its start with Nellie Mae grants for their first 2 years. Contracts have indicated a sizable fee with no deliverables identified. In Maine we began the process in earnest toward Proficiency Based Education that is identical to Competency Based Education. It was introduced on a large scale with the pilot program, Reinventing Schools Coalition (RISC). RISC was initiated in Alaska and implemented in California and Colorado. Their results have been nothing stellar, no evidence of academic improvement was apparent. In fact, many, many, three year comparisons showed downward trends in Math, ELA and Science at all grade levels."

H. Constant testing/lack of informed consent

43. United Opt Out Conference Highlights Dual Role of Technology in Education

Steven Singer   *Gadfly on the Wall Blog*   February 27, 2016

https://gadflyonthewallblog.wordpress.com/2016/02/27/united-opt-out-conference-highlights-dual-role-of-technology-in-education/

 "He warned the assembly of parents, students, teachers, professors and activists about the dangers of Competency Based Education (CBE), the next big thing in the movement to dumb down public schools. CBE is touted as a way to reduce high stakes standardized testing by allowing students to work at their own pace while on various computer programs. However, Krashen sees this is an increase in testing. In effect, it's testing every day. The computer programs used in CBE are little more than the same kinds of questions you'd see on a standardized test. An emphasis on CBE would replace a robust school curriculum with never-ending test preparation and multiple-choice assessment."

44. It Could Get Worse

Dr. Stephen Krashen   *SKrashen*   March, 2016

http://skrashen.blogspot.com/2016/03/it-could-get-worse.html

"The opt-out movement has had a real impact, with more parents refusing the tests for their children Even President Obama has spoken out about the negative impact of over-testing. But the testing industry is striking back: The new plan is to replace end-of-year standardized tests with what could be daily testing. The core of education will consist of modules of programmed instruction that students will work through online and be tested on, which will drastically diminish the role of teachers and increase profits of technology companies. The new federal K-12 education law that ends No Child Left Behind announced grants for the development of these teach-and-test machines. The National Governor's Association has admitted that there is little evidence supporting this major shift to what they call "competency-based education," yet has enthusiastically supported it."

45. CBE Online is Neither Personalized Nor Higher Order Thinking

Nancy Bailey   *Nancy Bailey's Education Website*   January 23, 2016

http://nancyebailey.com/2016/01/23/cbe-online-is-neither-personalized-nor-higher-order-thinking/

"For example, when the President said recently that there would be less testing, many believe he was in fact implying that online CBE was the way to go. Instead of one big test at the end of the year, students will get smaller tests every day…every hour…on the computer!"

"There is more involved in the teaching process than skill development, and it is sad that politicians and businessmen with no understanding of children have become obsessed with this kind of instruction. It lacks imagination and destroys the socialization process that is critical in today's world."

46. Local Teachers Tell the Truth About Personalized Learning

Emily Talmage   *Save Maine Schools*   April 13, 2104

https://emilytalmage.com/2016/04/13/local-teachers-tell-truth-about-personalized-learning/

"But compare what is happening in Auburn with others also at Ground Zero– including Baltimore County, Detroit, Los Angeles, and Adams 50 Colorado – and you will see the same themes cropping up again and again: corrupt politicians and overzealous district administrators lapping up hollow corporate sales pitches; demoralized teachers fearful of retribution for speaking up; parents left mostly in the dark or dismissed for their concerns; and glassy-eyed kids hooked into devices that collect data on their every move."

47. Thomas Kennedy: Citrus FL School Board Member Pulls the Curtain Back on Competency Based Testing

The Edvocate Blog   April 11, 2016

https://theedvocateblog.wordpress.com/2016/04/11/thomas-kennedy-citrus-fl-school-board-member-pulls-the-curtain-back-on-competency-based-testing/

"There are growing concerns about CBE used in conjunction with computers. As children move at their own pace, learning from the computer and taking adaptive tests, two things happen. The vendor who owns the program is collecting continuous detailed personal student data without parental consent and the human teacher steps to the background to provide technical assistance. Teachers no longer devise tests, computers do. This makes the entire CBE process high stakes, able to move students forward skipping an entire grade or bump them backward for poor performance."

48. "Blended learning bombshell: NJ Mom becomes iNACOL target"

http://parentsacrossamerica.org/blended-learning-bombshell-mom-inacol-target/

"Bruce Friend, the chief operating officer of iNACOL (gave a public talk) about stakeholder buy in for Blended Learning.... Mr. Friend projected an image of myself, a still shot from the BOE meeting I spoke at, and proceeded to talk about how I ruined 3 years of his efforts as a consultant in the district with a 10 minute presentation to the board....During his presentation, Mr. Friend not only outright lied about me, but he used his entire time to make the point that parents 'like me' don't understand 21st Century learning or what a classroom looks like with current trends in technology, and that parents really need to be taught what is best for their children. "

49. Will Competency Based Learning Rescue the Testocracy?

Anthony Cody   *Living In Dialogue*   November, 2015

http://www.livingindialogue.com/will-competency-based-learning-rescue-the-testocracy/

"We have the test makers defining concepts for students to learn, which are clearly delineated so the learner and the teacher know precisely what they are accountable for. We have frequent "formative assessments" built into assignments that students complete on computers, to be checked by those computers, with tagged data provided to teachers (and presumably to those tasked with supervising teachers.) There are two unwritten assumptions that are constant from the beginning of NCLB and carry through to this new version. Teachers are not trusted to make judgments about what students learn, how they learn it, or how learning is assessed. Assessment is defined as the external monitoring of the work inside the classroom. The second assumption is that data and technology must be instrumental in whatever process is devised. The main innovation here is the more thorough and intrusive penetration of the classroom via computers capable of monitoring learning. Both of these assumptions are unsupported by any evidence or track record, in terms of their ability to enhance learning."

50. Can Competency Based Education Be Stopped?

Peter Greene   *Curmudgucation*   November 27, 2015

http://curmudgucation.blogspot.com/2015/11/can-competency-based-education-be.html

"Critics are correct in saying that CBE has been coming down the pike for a while. Pearson released an 88-page opus about the Assessment Renaissance almost a year ago. Critics noted way back in March of 2014 (okay, I'm the one who noted it) that Common Core standards could be better understood as data tags. And Knewton, Pearson's data-collecting wing, was explaining how it would all work back in 2012.

"Every single thing a student does would be recorded, cataloged, tagged, bagged, and tossed into the bowels of the data mine, where computers will crunch data and spit out a "personalized" version of their pre-built educational program. Right now seems like the opportune moment for selling this program, because it can be marketed as an alternative to the Big Standardized Tests which have been crushed near to death under the wheel of public opinion. "We'll stop giving your children these stupid tests," the reformsters declare. "Just let us monitor every single thing they do every day of the year.""

51. Schools work on computer, keyboard skills so students capable of taking online exams

Megan Harris   Pittsburgh Tribune-Review   November 11, 2013

http://triblive.com/news/education/4942089-74/students-computer-online

"With the national introduction of exams aligned specifically to Common Core standards, students struggling to master handwriting and basic classroom etiquette will be expected to begin taking non-graded online exams as early as next year, including third-grade reading comprehension tests that require advanced keyboarding skills.

"How do you teach letter keys when the youngest kids are still learning their letters?" Lynch said. "I can tell them to press 'A,' but they may not know what that is yet."

"Little ones have shorter attention spans, said Carla Lagattuta, technology teacher for Allegheny Valley School District. Their ability to stay on task is limited, and often their hands are too small to manipulate keys effectively."

52. The Opt Out Irony

Peggy Robertson   *Peg With Pen*   April 8, 2016

http://www.pegwithpen.com/2016/04/the-opt-out-irony.html

"ESSA is pushing for online, daily testing - testing that is embedded inside online curriculum. Children will now be subjected to online modules in which they must master something before moving on to the next online module. It might be called personalized learning, mastery learning,

proficiency-based testing, competency-based education, innovative assessments, and more. ESSA is pushing for these online assessment systems, as is ALEC, and the many foundations and organizations that are hoping to cash in."

53. Co-Opting the Language of Authentic Education: the Competency Based Cuckoo

Steven Singer   *Gadfly on the Wall Blog*   April 29, 2016

https://gadflyonthewallblog.wordpress.com/2016/04/29/co-opting-the-language-of-authentic-education-the-competency-based-education-cuckoo/

"The latest such scheme to hoodwink communities out of authentic learning for their children is Competency Based Education (CBE) a term used interchangeably with Proficiency Based Education (PBE). Whatever you call it, this comes out to the same thing. Like so many failed policy initiatives that came before it offered by the same group of think tank sycophants, its name belies the truth. CBE and PBE have nothing to do with making children competent or proficient in anything except taking computer-based tests. That's what the whole program consists of – forcing children to sit in front of computers all day at school to take unending high stakes mini-tests. And somehow this is being sold as a reduction in testing when it's exactly the opposite."

I. Privacy issues

54. Reidenberg Argues Student Privacy is Lost in Data Cloud

Jacqueline Guffard   *Daily Princetonian*   February 6, 2014

http://dailyprincetonian.com/news/2014/02/reidenberg-argues-student-privacy-is-lost-in-data-cloud/

"Outsourcing, lack of transparency, vague contracts, outdated laws regarding the disclosure of student data and educational records, the reduction of IT costs and the recent push for data analysis of schools are to blame for new risks to student privacy."

"…schools relinquish control over information when they outsource to vendors that, as a result of vague contract agreements, are allowed to store student information indefinitely, or pass it on to third parties for use in various types of additional data analysis."

55. Privacy and Cloud Computing in Public Schools

Center on Law and Information Policy (CLIP) at Fordham University   December 12, 2013

http://www.studentprivacymatters.org/wp-content/uploads/2014/04/Privacy-and-Cloud-Computing-in-Public-Schools.pdf

"As public schools in the United States rapidly adopt cloud-computing services to fulfill their educational objectives, and transfer increasing quantities of student information to third-party providers, privacy issues become more salient and contentious. The protection of student privacy in the context of cloud computing is generally unknown both to the public and to policy-makers."

56. How Well is Students' Private Personal Data Protected?

Electronic Frontier Foundation

https://www.eff.org/issues/student-privacy/faq#faq--How-well-is-students'-private-personal-data-protected?

"Parents have reached out to EFF with concerns about woefully inadequate, overreaching, or inappropriate technology policies in their districts, and sometimes a lack of policies altogether. By putting students' private information on the web, we take many risks that go far beyond subjecting students to tracking for advertising purposes. We normalize a world where students are expected to thoughtlessly hand over their personal data to companies and rely on proprietary software. We also put their personal privacy in the hands of third parties who may not protect it, despite the laws that are already in place. When used responsibly, the mobile digital devices issued by schools are a boon to education—but that responsibility should not be entirely left up to the software and hardware vendors that sell schools products for students."

57. Student Privacy Matters: Rachael Stickland's Testimony to U.S. House Education and the Workforce Committee on Student Privacy

Student Privacy Matters   March 28, 2016

http://www.studentprivacymatters.org/category/blog-posts/

"Currently, schools collect much more information on students than most parents realize. While some was required by *No Child Left Behind* and individual state mandates, much of the data now collected appears to transcend legal requirements. Beyond standard transcript-type data like student names, addresses, courses taken, grades earned and days absent, schools also collect hundreds of pieces of information like disabilities and interventions, medical information from 504 plans, disciplinary incident reports, scores on standardized exams, school readiness scores and recommendations for grade retention. Additionally, schools or commercial vendors used by schools collect highly personal information from students as they use online education tools such as Google Apps for Education or Khan Academy."

"Allowing or incentivizing the government to track autonomous individuals through most of their lives in the name of research has speculative benefits at best and can instead lead to profiling, stereotyping and discrimination that can hinder a child's potential for growth and success. We agree with both the testimony provided by National PTA and Microsoft to the House Subcommittee on Early Childhood, Elementary and Secondary Education in February 2015 that an individual owns

his or her own data. Parents believe this to mean the right to decide with whom it will be shared and under what conditions."

58. Creators of Student Data Privacy Pledge Opposing Student Privacy Bills

Cheri Keisecker   *Missouri Education Watchdog*   April 14, 2016

http://missourieducationwatchdog.com/siia-creators-of-student-privacy-pledge-opposing-student-privacy-bills/

"Privacy helps -not hampers- innovation. Khaliah Barnes director of the student privacy project at the Electronic Privacy Information Center (EPIC) states: "Rampant data collection is not only destroying student privacy, it also threatens students' intellectual freedom. When schools record and analyze students' every move and recorded thought, they chill expression and speech, stifling innovation and creativity.""

59. Gates Foundation Responds to GSR Bracelets controversy

Luisa Kroll   *Forbes* June 13, 2012

http://www.forbes.com/sites/luisakroll/2012/06/13/gates-foundation-responds-to-gsr-bracelets-controversy/#521bae91526f

"News broke that Clemson U. had late last year obtained a nearly half million dollar grant from the (Gates) foundation to conduct a pilot study with Galvanic Skin Response (GSR) bracelets, wireless sensors that track physiological reactions, in schools. The idea supposedly was that children would wear these biometric bracelets in classrooms to measure their engagement."

60. Let's Stop Google from Gobbling Up Our Schools

Jackie Smith-Alfredo Lopez   *Counter Punch*   June 3, 2016

http://www.counterpunch.org/2016/06/03/lets-stop-google-from-gobbling-up-our-schools/

Secret data collection, unwanted advertising, and captive audiences are some of the problematic issues with using Google products in schools.

61. The Problematic Shift to Competency Based Education in New Hampshire Schools

Ann Marie Banfield   *Girard At Large*   November 29, 2015

http://www.girardatlarge.com/2015/11/remember-when-tcome-based-ed/

"This new shift to workforce training is no longer about helping the child academically or work to improve on their study skills. It is a shift to collecting data on their behaviors and attitudes so future employers and colleges can then analyze them."

J. Who really benefits from EdTech?

62. CBE: Destroying Public Schools One Profitable Data Point at a Time

Sue Woltanski and Suzette Lopez   *Accountabaloney*   January 26, 2016

https://accountabaloney.wordpress.com/2016/01/26/competency-based-education-destroying-public-schools-one-profitable-data-point-at-a-time/

"In this modern computer era, digital personal data is gold, currently being traded like currency. You know when you search for something on Amazon and Google and then you start seeing ads related to that search in your feed? That is the result of data mining. In a video I have linked, the CEO of Knewton explains how Education is today's most data mined industry. He explains "the name of the game is data per user." From Amazon or Netflix they get 1 data point per user per day. Google and Facebook 10 data points per user per day. In education, Knewton gets 5-10 million actionable data points per student per day! Apparently, every sentence of every passage in digital content has a data tag and they can tell how interested a child is in a certain topic, how difficult it was, etc., etc. Ten million data points a day! This data grab is a gold mine to companies that want to market and design products. For venture capitalists, Education is the new hot commodity."

63. CPS' newly posted job, Executive Director of Personalized Learning, comes with a dire warning

Julie Vassilatos   *Chicago Public Fools*   June 10, 2016

http://www.chicagonow.com/chicago-public-fools/2016/06/cps-newly-posted-job-executive-director-of-personalized-learning-comes-with-a-dire-warning/

"The problem is that personalized learning is a movement touted *solely* by the edtech industry and philanthropists--period. These ideas and descriptions sound nice in theory. Yet all of these programs, games, and videos make personalized learning "student centered" at the cost of being *teacher-guided.* It is a model that is not proven, an experiment that has relegated students to becoming software beta-testing lab rats."

64. Unplug Your Children-Opt Out of Data

Cheri Kiesecker   *Missouri Education Watchdog*   March 9, 2016

http://missourieducationwatchdog.com/unplug-your-children-opt-out-of-data/

"Gamification means more screen time and therefore gamification means more data collected. More data sent to the vendor, or owner of the program. Data can further be shared with any software companies the vendor partners with to package or analyze or sell the data. Gamification has been on the BigData agenda for a few years and is increasingly embraced by edtech. In fact they –they being the billionaires and educrats of the Global Ed Futures reform agenda– want (among other things) online games to be considered for class credit in future years."

65. Learning to be Watched: Surveillance Culture at School

Faith Boninger and Alex Molnar   *National Education Policy Center*   May, 2016

http://nepc.colorado.edu/files/publications/RB%20Boninger-Molnar%20Trends.pdf

"At a panel discussion at February 2016's Mobile World Congress, Roi Carthy, the Chief Marketing Officer of ad-blocking company Shine, graphically emphasized the reach and power of Internet marketing: "Every individual using a mobile handset, smartphone or desktop is being abused by ad-tech—that's not selective, that is 100 percent." He continued, "We're talking about military-grade tracking, targeting and profiling." "Big data," which is invisibly collected on children via what is essentially constant surveillance of their digital behavior, provides much greater depth of information about them than "old-fashioned," low-tech profiling and targeting. In other words, data gathering and surveillance are now merged. Metadata can now be analyzed using computational techniques that allow marketers to model specific individuals rather than aggregated groups, to test the accuracy of those models in real time with the individuals in question, and to adapt them accordingly for more effective use. Although companies that collect, sell, analyze, and buy data may not know children's names (though they probably do), that hardly matters if they have the information and tools necessary to model everything about those children—including their interests, social networks, personalities, vulnerabilities, desires, and aspirations—and if they have personalized access to children, via their electronic devices, to shape them. By feeding children ads and other content personalized to appeal specifically to them, and also by choosing what not to show them, marketers influence children's thoughts, feelings and behaviors. As they do, they also test, adjust, and perfect their models of influence—and then track and target some more."

66. Who really benefits from putting high-tech gadgets in classrooms?

Michael Hiltzik LA Times Feb. 2, 2012

"The leading promoter of the replacement of paper textbooks by e-books and electronic devices today is Apple...but mindless servility to technology for its own sake...will make things worse, not better. That's because it distracts from and sucks money away from the most important goal, which is maintaining good teaching practices and employing good teachers in the classroom."

67. Pearson "Education" – Who are these people?

Alan Singer, Huffington Post, Sept. 4, 2012.0033

http://www.huffingtonpost.com/alan-singer/pearson-education-new-york-testing-_b_1850169.html

According to a recent article on Reuters, an international news service based in Great Britain, "investors of all stripes are beginning to sense big profit potential in public education. The K-12 market is tantalizingly huge: The U.S. spends more than $500 billion a year to educate kids from ages five through 18. The entire education sector, including college and mid-career training, represents nearly 9 percent of U.S. gross domestic product, more than the energy or technology sectors."

Pearson, a British multi-national conglomerate, is one of the largest private businesses maneuvering for U.S. education dollars. The company had net earnings of 956 million pounds or approximately 1.5 billion dollars in 2011.

Pearson's chief operating officers, who are also heavily invested in the company, are busy trading stocks and racking up dollars and pounds while the corporation's financial situation is shaky. And their solution is to sell, sell, sell their products in the United States. Are these the people we want designing tests, lessons, and curriculum for our students and deciding who is qualified to become teachers?

68. Personalized Learning: How Big is the Beast?

Emily Talmage   *Save Maine Schools*   March 22, 2016

https://emilytalmage.com/2016/03/22/personalized-learning-how-big-is-the-beast/

"With its reliance on one-to-one digital devices, digital courseware, artificial intelligence, and massive data collection, personalized learning promises to reap big rewards for investors and corporate executives."

69. Who is Being Served?

Peter Greene   *Curmudgucation*   March 15, 2015

http://curmudgucation.blogspot.com/2016/03/who-is-being-served.html

"Competency based education could be a useful approach to education, but as currently packaged and promoted, it is welded to technology, and that technology is not there to serve the students. It does not make it easier for the students to learn; it makes it easier for Other Parties to monitor student learning. It does not make it easier for teachers to teach-- it makes it easier for Other Parties to monitor what is happening in the classroom."

70. 21st Century Learning, Inc.

Tara Ehrcke   *Academia*   2013

http://www.academia.edu/3533227/21st_Century_Learning_Inc

"Children, parents, teachers and the public have everything to lose with this model. In the worst case scenarios, excellent, comprehensive neighborhood schools with a wide variety of face-to-face programming will be replaced with overcrowded, technology based schools with significant public money going towards corporate profits. Corporations like to make citizens believe that our interests are the same: that people benefit when corporations are successful. But in most instances, corporate interests and the interests of citizens wanting a strong, equitable, publicly funded and publicly controlled education system, are in conflict. Excessive technology is not better for learning. Fewer teachers is not better for students. Overnight radical transformation is not a sensible way to address the issues that do exist with our current school systems. Turning schooling into primarily job preparation centres will not produce a highly educated, active and democratic citizenry. Computers will not personalize education. 21st Century Learning should be seen for what it is: a highly effective corporate lobby campaign. Citizens, teachers, students and parents should reject it. We have nothing to gain, and everything to lose."

71. Common Core and Corporate Colonization: The Big Picture

Morna McDermott   *Educational Alchemy*   October 30, 2015

https://educationalchemy.com/2015/10/30/common-core-and-corporate-colonization-the-big-picture/

"What are the outcomes? Outsourcing K-12 education, eliminating teachers (union busting), eliminating Colleges of Education, data mining, creating for-profit alternative certification programs, and outsourcing teacher preparation to online corporations. How: 1) Create a set of "common standards", 2) break standards down into modules called student learning outcomes (SLOs), 3) use SLOs to manufacture Competency Based Education (CBE) framework, which, 4) can be provided by private/corporate entities via online education and technology-driven resources (no classroom or teacher…or school, required)."

72. Online schools spend millions to attract students

GregToppo   USA Today   Nov. 28, 2012

http://www.usatoday.com/story/news/nation/2012/11/28/online-schools-ads-public-/1732193/

"The USA TODAY analysis finds that 10 of the largest for-profit operators have spent an estimated $94.4 million on ads since 2007. The largest, Virginia-based K12 Inc., has spent about $21.5 million in just the first eight months of 2012.

"A look at where K12 is placing the ads suggests that the company is also working to appeal to kids: Among the hundreds of outlets tapped this year, K12 has spent an estimated $631,600 to advertise on Nickelodeon, $601,600 on The Cartoon Network and $671,400 on MeetMe.com, a social networking site popular with teens. It also dropped $3,000 on VampireFreaks.com, which calls itself "the Web's largest community for dark alternative culture."

"Kevin Welner, a professor who tracks virtual schools, estimated that K12 is on pace this year to spend about $340 per student on advertising, or about 5.2% of its per-pupil public expenditures."

73. How online learning companies bought America's schools

Lee Fang   The Nation   Nov. 16, 2011

https://www.thenation.com/article/how-online-learning-companies-bought-americas-schools/

"From Idaho to Indiana to Florida, recently passed laws will radically reshape the face of education in America, shifting the responsibility of teaching generations of Americans to online education businesses, many of which have poor or nonexistent track records. The rush to privatize education will also turn tens of thousands of students into guinea pigs in a national experiment in virtual learning—a relatively new idea that allows for-profit companies to administer public schools completely online, with no brick-and-mortar classrooms or traditional teachers."

"A recent study of virtual schools in Pennsylvania conducted by the Center for Research on Education Outcomes at Stanford University revealed that students in online schools performed significantly worse than their traditional counterparts. Another study, from the University of Colorado in December 2010, found that only 30 percent of virtual schools run by for-profit organizations met the minimum progress standards outlined by No Child Left Behind, compared with 54.9 percent of brick-and-mortar schools. For White Hat Management, the politically connected Ohio for-profit operating both traditional and virtual charter schools, the success rate under NCLB was a mere 2 percent, while for schools run by K12 Inc., it was 25 percent. A major review by the Education Department found that policy reforms embracing online courses "lack scientific evidence" of their effectiveness."

"The frenzy to privatize America's K-12 education system, under the banner of high-tech progress and cost-saving efficiency, speaks to the stunning success of a public relations and lobbying campaign by industry, particularly tech companies. Because of their campaign spending, education-tech interests are major players in elections."

74. Why 21ˢᵗ Century Learning is No More Than Status Quo

Morna McDermott   *Educational Alchemy*   May 25, 2016

https://educationalchemy.com/2016/05/25/why-21-century-learning-is-no-more-than-status-quo/

Oh sure, *they claim* to be change agents: through disruptive innovation. **But it's not innovative or disruptive to merely usher in digital learning in a digital age any more than it was "radical" to usher in factory models of schools in an age of factories.** Such models of schooling (all that have preceded us and including the current paradigm) are framed NOT to serve the children but the rulers of the economic empire of their times. This time around its 1) global 2) private (free market), 3) corporate 4) CEO's.