

The Iraq War, “Sound Science,” and “Evidence-Based” Educational Reform: How the Bush Administration Uses Deception, Manipulation, and Subterfuge to Advance its Chosen Ideology

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Abstract

In this article we describe how the Bush administration has used deceptive techniques and subterfuge to force its ideology upon the American people. We provide examples of similar techniques used to manipulate public opinion and national policy in three broad areas: national defense, science, and education.

Our example from national defense policy, as one might guess, relates to the centerpiece of the Bush Administration, the Iraq War, and in particular the gathering and presenting of “evidence” on Iraq’s weapons of mass destruction in order to gather public support for the war. The build up to the war provides examples of fabricated evidence, dire warnings, and manipulation of U. S. intelligence agencies, all orchestrated by the White House.

The breadth of deception and manipulation of science by the Bush Administration is quite amazing, cutting across policy on endangered species, climate change, reproductive health, stem cell research, dietary science, and environmental pollution. This is a story of suppressing and tampering with scientific findings, intimidating scientists, manipulating the membership of scientific committees, and allowing representatives of industry and social conservative groups to write Administration policies or legislative proposals.

We go on to show how many of the same techniques used by the Bush Administration in the build up to the Iraq War and in science have been adapted to control education in the U. S. under the guise of “evidence-based educational reform.” We document Administration efforts to “scrub” educational documents to delete content that does not agree with the Administration’s ideology, promote private management and private schools at the expense of public schools, and force schools to adopt commercial curricula favored by the Administration. Bush’s attempts to control public education are explained by his allegiance to two major constituencies, social conservatives and the corporate sector, and his

commitment to what we refer to as neoconservative federalism. We show how these three factors merge as the underlying basis of No Child Left Behind (NCLB) and an array of other Administration efforts to control education.

In a discussion focused on addressing the abuse of education by the Bush Administration, we suggest questions to critique the Administration's "evidence-based" initiatives. We argue that the evidence-based approach is a gross oversimplification and misrepresentation of educational research and authentic educational reform. Finally, we agree with Lather (2003) that the evidence-based approach and other deceptive practices of the Bush administration are part of an effort to take control of public education, and we argue for theory-based research as a vehicle for challenging the evidence-based approach.

The Iraq War, physical science, and educational reform typically are not topics discussed in the same article. The common denominator that brings these topics together here is George W. Bush and his administration's neoconservative ideology. For the Bush Administration, military, science, and educational policy all have been tools for implementing its neoconservative agenda.

Given the fact that the majority of Americans do not share the Bush Administration's extreme views on war as first option, science as an unnecessary barrier to corporate profits, and public education as a threat to its vision of a socially conservative society, the Administration was unable to use in a straightforward and transparent manner the tools of military power, science policy, and educational reform to meet its ideological goals. Rather, the Administration deceived the American people into believing that military action in Iraq was necessary to save the world from terrorism and weapons of mass destruction, that scientific research had proven corporations innocent of environmental damage, and that scientific evidence supported an essentialist, positivist, reductionist approach to education.

To accomplish all of this deception, the Bush Administration has had to manipulate (and sometimes remove altogether from the decision making process) a great many people and a great deal of data, and has practiced widespread subterfuge in all three arenas examined in this article. Across the arenas of national defense, physical science, and educational reform, common patterns of deception, manipulation, and subterfuge can be identified in the Administration's efforts to impose its ideology on the American people.

Part I: Building Support for the Iraq War

On March 23, 2003, George W. Bush addressed the nation to announce the war on Iraq. The war address was 26 paragraphs in length, with 22 of those paragraphs discussing either Iraq's weapons of mass destruction (WMD) or the threat of a terrorist attack (to be conducted by "Saddam Hussein and his terrorist allies") on the United States (Bush, 2003a).

The Bush war address was the culmination of an intense effort by the Bush Administration to build support for the war by gathering evidence of Iraq's WMD. Biological weapons was one WMD category described by the Secretary of State Colin Powell in the February 2003 address to the United Nations.

One of the most worrisome things that emerges from the thick intelligence file we have on Iraq's biological weapons is the existence of mobile production facilities used to make biological agents ... We have first-hand descriptions of biological weapons

factories on wheels and on rails ... there can be no doubt that Saddam Hussein has biological weapons and the capability to rapidly produce more and more. (Powell, 2003)

Secretary Powell's discussion of Iraq's biological weapons was accompanied by a slide with detailed drawings of mobile biological vehicles.

The Bush Administration also claimed to have evidence that Hussein controlled large amounts of chemical weapons. In his October 7, 2002 address to the nation, the President stated, "We know that the régime has produced thousands of tons of chemical agents, including mustard gas, sarin nerve gas, and VX nerve gas" (Bush, 2002). Colin Powell argued in his 2003 address to the United Nations that "Our conservative estimate is that Iraq today has a stockpile of between 100 and 500 tons of chemical weapons agents. That is enough agent to fill 16,000 battlefield rockets" (Powell, 2003).

The most ominous warnings from the Bush Administration concerned Iraq's nuclear threat. President Bush stated in his 2003 State of the Union address: "The British government has learned that Saddam recently sought significant quantities of uranium from Africa. Our intelligence sources tell us that he has attempted to purchase high-strength aluminum tubes suitable for nuclear weapons production" (Bush, 2003b).

As if the threat of biological, chemical, and nuclear weapons wasn't enough, the Bush Administration warned that Iraq was building ballistic missiles with a range of over 1,000 miles and unmanned aerial vehicles (UAV) which could disperse chemical and biological weapons over the Middle East and perhaps even the United States. President Bush warned the nation of this threat in his October 7, 2002 address on Iraq:

We've also discovered through intelligence that Iraq has a growing fleet of manned and unmanned aerial vehicles that could be used to disperse chemical and biological weapons across broad areas. We are concerned that Iraq is exploring ways of using these UAV's for missions targeting the United States. (Bush, 2002)

If Hussein's own delivery systems could not reach the United States from Iraq, the president warned in his 2003 State of the Union speech that Hussein's terrorist partners could:

Evidence from intelligence sources, secret communications, and statements by people now in custody reveal that Saddam Hussein aids and protects terrorists, including members of al-Qaeda. Secretly, and without fingerprints, he could provide one of his hidden weapons to terrorists, or help them develop their own. (Bush, 2003b).

We now know that there were no biological, chemical or nuclear weapons stockpiles or programs during the months leading up to the war. The aluminum tubes "suitable for nuclear weapons production," it turned out, were not suited for enriching uranium for nuclear weapons but were intended for Iraq's rocket program. The only "evidence" of WMD located after the war consisted of two vehicles initially believed to be mobile biological warfare labs. Eventually, however, engineers from the Defense Intelligence Agency (DIA) and British scientists concluded that the vehicles were most likely used to produce hydrogen for artillery weather balloons. Although evidence was found that Iraq was deploying short-range missiles with range beyond the 150-kilometer limit imposed by the United Nations, no post-war evidence of scud-type missiles, any long-range missiles, or any program to develop such missiles was discovered. Although UAV were discovered, the U.S. Air Force concluded that the drones were too small to carry WMD agents, and were most likely intended for reconnaissance missions. Finally, since the Iraq war, no evidence of joint Iraq-

al-Qaeda terrorist operations prior to the war has been uncovered (Cirincione, Matthews, & Perkovich, 2004).

How could the United States Government, with its vast array of sophisticated intelligence networks and technology, have been so wrong about WMD? The Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction (Commission, 2005), appointed by the President, and the U.S. Senate's Republican-led Select Committee on Intelligence (2004) placed blame for the inaccurate pronouncements squarely—and almost entirely—on the intelligence community, exonerating policy makers in the Bush Administration. Independent analysts and investigative journalists also critical of the intelligence community have shed a far more revealing light on the Bush Administration.

Cirincione et al. (2004) note that "the consensus of the intelligence agencies in early 2002 was that ... the 1991 Gulf War, U.N. inspections, and subsequent military actions had destroyed most of Iraq's chemical, biological, nuclear, and long-range missile capability" (p.16). Although the intelligence agencies believed that some WMD could remain and that production might be renewed, they had no direct evidence of any WMD or WMD programs in Iraq, and cautioned that without ground inspections it was very difficult to determine the existence or status of WMD programs.

Despite the lack of evidence of WMD, in mid 2002 there was a dramatic shift in assessments of WMD by the U.S. intelligence community, culminating in the National Intelligence Estimate (NIE) in October 2002, which concluded that Iraq possessed large amounts of biological and chemical weapons, probably possessed scud type missiles and UAV intended to dispense biological weapons, and had restarted its nuclear program in 1998. The NIE was a key part of an escalating body of "evidence" on Iraq's WMD presented by the Bush Administration in the months preceding the war. Since the war, however, considerable evidence has been uncovered that the NIE estimate, along with other "proof" of WMD, was the result of pressure and manipulation by the Bush Administration rather than the gathering of new and reliable data by the intelligence community.

One type of manipulation involved senior Administration officials setting up their own intelligence operations in the Pentagon and White House. One such operation, described by Hersh (2005), was the Office of Special Plans (OSP) established in the Pentagon "in order to find evidence of what (Deputy Secretary of Defense) Wolfowitz and his boss, Defense Secretary Donald Rumsfeld, believed to be true – that Saddam Hussein had close ties to al-Qaeda, and that Iraq had an enormous arsenal of chemical, biological, and possibly even nuclear weapons" (p. 209). The OSP was set up to make estimates about Iraq's WMD that other intelligence agencies like the Central Intelligence Agency (CIA) and the Pentagon's own Defense Intelligence Agency (DIA) were unwilling to make. One of the strategies utilized by the OSP in making these estimates was "cherry-picking" (Pillar, 2006), in which analysts were "rummaging through the agency's vast inventory of reports received to find nuggets of fact or allegation that suggest Iraq has bought this, or sought that, or built or smuggled or hidden something else" (Powers, 2003, p. 16). Kenneth Pollack (2004), the director of research for the Saban Center for Middle East Policy located at The Brookings Institution, notes that "to a great extent OSP personnel 'cherry-picked' the intelligence they passed on, selecting reports that supported the Administration's pre-existing position and ignoring all the rest" (p. 88).

The OSP relied on data gathered by other U.S. intelligence agencies and the Iraqi National Congress (INC), an Iraqi opposition group led by Ahmad Chalabi that was devoted to the overthrow of Saddam Hussein. Much of the information provided by Chalabi was based on reports from Iraqi defectors. Both Chalabi and the defectors he gathered reports from were viewed with considerable suspicion by U.S. intelligence agencies. By 2002, however,

Chalabi had become a primary source for the OSP, which in turn had become one of President Bush's primary sources on Iraq.

Throughout 2002, reports were flowing from the Pentagon (OSP) directly to the Vice President office, and then on to the President, with little prior evaluation by intelligence professionals. When analysts did get a look at the reports, they were troubled by what they found. "They'd pick apart a report and find out that the source had been wrong before, or had no access to the information provided," Greg Thielmann, an expert on disarmament for the State Department's Bureau of Intelligence and Research, told me. "There was considerable skepticism throughout the intelligence committee about the reliability of Chalabi's sources, but the defector reports were coming in all the time. Knock one down and another comes along. Meanwhile, the garbage was being shoved straight to the President." (Hersh, 2005, p. 217-218)

Beyond using rival intelligence reports from the OSP, the Bush Administration directly pressured the intelligence community to conclude that Iraq possessed large quantities of WMD. Risen (2006), for example, reported that "Deputy Defense Secretary Paul Wolfowitz and other neo-conservatives at the Pentagon and their allies in the office of Vice President Dick Cheney pushed and pressured the CIA on the toxic issue of Iraq" (p. 71). Risen concluded that CIA director George Tenet "failed to act as a buffer against the pressure being brought to bear by the administration hardliners" (p.71). Eventually, Risen reported, Tenet concluded that the White House had decided to invade Iraq and it was time for the CIA to get on board.

Agency officials who appeared to be unenthusiastic about Iraq soon mysteriously found themselves sidelined, while their more eager and ambitious colleagues began to rise, both within the Directorate of Operations and in the Directorate of Intelligence, the analytical arm. The pressure from the Bush Administration was being transmitted directly into the ranks of the nation's intelligence community, affecting careers and lives (p. 77).

The atmosphere created by the Bush Administration led the intelligence community to accept evidence of WMD that, in normal times, would not have been taken seriously. For example, Colin Powell's discussion of Iraq's mobile biological laboratories was based on the reporting of a single Iraqi defector (code named "Curveball"), who U.S. intelligence officials never even talked to. Curveball's allegations were shared by the German intelligence service with a U. S. military intelligence unit, which in turn provided the information to the CIA. Eventually, Curveball's report was determined to be a fabrication (Commission, 2005). Another example is a set of documents that surfaced in Italy in October 2002, purportedly supporting that Iraq was attempting to purchase uranium from Niger. Despite doubts of the documents' authenticity expressed by members of the intelligence community, the unvetted intelligence was passed on to the White House, and became part of President Bush's January 2003 State of the Union address. Eventually the documents were proven to be forgeries (Commission, 2005).

While suspect evidence was offered to Congress and the American people as proof of Iraq's WMD, solid evidence to the contrary was ignored. United Nations inspections carried out in Iraq between November 2002 and March 2003 found no evidence that WMD programs had continued or resumed (Cirincione, 2005). The Bush Administration dismissed the U.N. inspections. In 2002, the CIA convinced family members living outside of Iraq to contact dozens of scientists in Iraq believed to be involved in Iraqi weapons programs to seek information on WMD. These contacts included personal visits to scientists in Iraq that put relatives and scientists at considerable risk. The family members consistently brought back

the same information: there were no biological, chemical or nuclear stockpiles or programs in Iraq. This information was never disseminated by the CIA, and the CIA's Directorate of Operations eventually shut down the program that was gathering this intelligence (Risen, 2006).

Although the impression given by the Administration was consensus across the intelligence community on WMD, there was in fact considerable dissent by individuals and groups within the intelligence community – dissent that was ignored by the Administration.

... Many CIA officials – from rank-and-file analysts to senior managers – knew before the war they lacked sufficient evidence to make the case for the existence of Iraq's weapons programs. Those doubts were stifled because of the enormous pressure that officials at the CIA and other agencies felt to support the administration (Risen, 2006, p. 109).

Pollack (2004) notes that "intelligence officers who presented analyses that were at odds with the pre-existing views of senior Administration officials were subjected to barrages of questions and requests for additional information" which tended to "distract [the analysts] from their primary mission" (p. 9). Pillar (2006) adds, "the administration selected pieces of raw intelligence to use in its public case for war, leaving the intelligence community to register varying degrees of private protest when such use started to go beyond what analysts deemed credible or reasonable" (p. 20).

Risen (2006) reports that in April 2002, a year before the war began, case officers from throughout Europe were ordered to attend a conference in Rome where they were told that the Bush Administration was committed to war with Iraq. In November, 2002, CIA Station chiefs from throughout the Middle East were summoned to a secret meeting in London in which officials from CIA headquarters "would make it clear that it was time for the skeptics among them to drop their reluctance to engage in Iraq" (Risen, 2006, p. 79). Paul R. Pillar (2006), the CIA's national intelligence officer for the Near East and South Asia from 2000 to 2006, sums up the misuse and abuse of the intelligence community by the Bush Administration:

In the wake of the Iraq war, it has become clear that official intelligence was not relied on in making even the most significant national security decisions, that intelligence was misused publicly to justify decisions already made, that damaging ill will developed between policymakers and intelligence officers, and that the intelligence community's own work was politicized. (p. 15)

The Bush Administration used a number of other strategies to manipulate public and congressional opinion on WMD, strategies hardly befitting the executive branch of a great democracy. One of these strategies was *layering*, basing WMD conclusions on other WMD conclusions that themselves were suspect. For example, basing the conclusion that Iraq was producing chemical weapons on the conclusion that it was producing biological weapons (Commission, 2005). Layering began with the intelligence community, and was taken to new heights by the Administration. Another strategy was *conflating*, in which, for example, biological, chemical, and nuclear weapons were combined into a single WMD threat, when in fact there was little likelihood that Iraq had nuclear weapons. Yet another strategy was simply misrepresenting existing analyses of the WMD threat through "wholesale dropping of caveats, probabilities and expressions of uncertainty present in intelligence assessments from public statements ... possibility first became likelihood, likelihood then subtly became fact, and a huge stockpile is created ..." (Cirincione, et al., 2004, p. 153). Misrepresenting also took the form of exaggeration: "... biological agent is transformed into weapons, and not just any weapons but extremely sophisticated delivery systems – the only way such

weapons could kill 'millions'." (Cirincione, et al., 2004, p. 153). Once the war was on and no WMD were found, the Bush Administration conjectured the WMD were all relocated to Syria before American troops arrived.

The gathering, analysis, and reporting of the intelligence data on which the Bush Administration based its need to go to war with Iraq was driven by ideology, intimidation, and deception. This was anything but an "evidence-based" war. The field of intelligence, of course, is a craft rather than a science. However, there is now a large body of evidence to suggest that the Administration is using many of the same strategies used to garner support for the war to control the scientific community as it has the intelligence community, with the goal of forcing science to support public policy consistent with the Administration's ideology.

Part II: Sound Science?

The Iraq War is the centerpiece of the Bush Administration and, at least in general terms, the claims of WMD leading up to the war—as well as the failure to find them—are well known to the American public. Less known to the public is the similar pattern of deception used by the Administration in its attempt to control science in a variety of areas related to public policy. The Union of Concerned Scientists (UCS) has made the following charge:

At a time when one might expect the federal government to increasingly rely on impartial researchers for the critical role they play in gathering and analyzing specialized data, there are numerous indications that the opposite is occurring. A growing number of scientists, policy makers, and technical specialists both inside and outside the government allege that the current Bush administration has suppressed or distorted the scientific analyses of federal agencies to bring these results in line with administration policy. (UCS, 2004a)

Although there have always been political fights over science policy, the UCS points out, this Administration is manipulating scientific research to support its own ideology. We may never know for sure the real reasons why the Bush Administration went to war in Iraq, but the reasons for deception in science seem clear: invariably the beneficiaries of manipulation of science have been powerful industries and social conservatives (Mooney, 2005). The Administration's distortions of science span a variety of areas. Here we will present a few examples.

Endangered Species

Some of the Bush Administration's interventions regarding endangered species would be comical if they were not so dangerous for the environment. Against advice from scientists at the National Marine Fisheries Service, the Bush Administration decided to lower the flow of Oregon's Klamath River Basin, helping agribusinesses but killing more than 33,000 salmon (Rushing, 2004). The Administration has refused to release two reports concerning the Klamath Basin, one of which "concludes [that] increased river flow levels would generate 30 times more economic benefit through recreational activities than the current practice of diverting it to farmers in the Klamath Basin" (Rushing, 2004, p. 105). A former lawyer for the timber industry developed a policy for the Administration that called for counting salmon raised in hatcheries as part of the salmon population in the Northwest. Members of a scientific advisory panel including six leading ecologists were told to remove a

recommendation from their report that endangered species counts include only wild, naturally spawning salmon, or their report would “end up in drawer.” Using similar tactics, the U.S. Fish and Wildlife Service inflated estimates of panthers in Florida by assuming that juvenile, aged, and ill panthers breed; and deflated panthers’ habitat needs by equating daytime habitat use, when panthers are sleeping, with nighttime use, when panthers are active (UCS, 2004b).

In a survey of scientists and managers in the Environmental Protection Agency’s Region 8 (Colorado, Montana, North Dakota, and Wyoming) conducted by Public Employees for Environmental Responsibility (PEER), 57 percent of respondents agreed that promoting President Bush’s energy plan and other initiatives had become more important than protecting the environment, and 77 percent agreed that political interests affected key Environmental Protection Agency (EPA) decisions more than they had five years previously (PEER, 2003). If intimidation of scientists, suppression of scientific findings, and manipulation of data were not harmful enough, the Bush Administration has supported “sound science” legislation intended to require a higher burden of proof to declare a species endangered, add layers of review intended to delay federal action, and undermine population modeling, a critical tool in identifying endangered species (Mooney, 2005).

Climate Change

For five consecutive years prior to 2002, the EPA had included a discussion on climate change in its annual report on air pollution. In September 2002, the Bush Administration removed the section on climate change from the report (UCS, 2004a). In June 2003, White House officials tried to force the EPA to make several changes in its Report on the Environment. The White House deleted from the draft report a reference to a study of temperature records over the last 1000 years that concluded the temperature had risen sharply over the previous decade (Revkin & Seelye, 2003), and inserted a reference to a discredited study on temperature records partially funded by the American Petroleum Institute. The White House also inserted many qualifying words intended to create the impression of uncertainty regarding the existence and causes of global warming. In the end, EPA staff decided to entirely delete the discussion of global warming from the report rather than misrepresent the scientific consensus and damage EPA’s credibility (Rushing, 2004). Widespread criticism of the Bush Administration for its censorship of the EPA apparently has not dampened its enthusiasm for the practice. As recently as January 2006, James Hansen, director of the National Aeronautic and Space Administration’s (NASA) Goddard Institute for Space Studies, charged the Bush Administration began efforts to censor him after he gave a lecture calling for reductions of greenhouse gas emissions. Hansen claimed that NASA’s public affairs office was ordered to review his upcoming lectures, papers, Goddard web site postings, and interview requests from journalists (Revkin, 2006).

Another tactic used by the Bush Administration involves publicizing the opinions of those few scientists (often associated with neo-conservative institutes and think tanks) who disagree with scientific consensus on global warming. The Administration usually provides a stage for these outliers in public rather than scientific forums, so they cannot be challenged by mainstream scientists. Yet another tactic is cherry picking parts of legitimate scientific reports. For example, Bush has quoted cautionary language from the National Academy of Science report on climate change to cast doubts on global warming, despite the fact the report concluded that global warming was a reality partially caused by human activity. The whole purpose of the insertion of qualifying language in government reports, promoting scientific outliers, and cherry picking from reputable scientific reports is to create an illusion

of scientific uncertainty regarding global warming and the contributions of human activity to global warming (Mooney, 2005).

Reproductive Health

Despite evidence that abstinence-only sex education programs do not decrease unwanted pregnancies and may actually increase them, the Bush Administration has insisted that abstinence only programs be the only ones supported by the federal government. The Administration forced scientists from the Center for Disease Control (CDC) to attend daylong sessions on the "science of abstinence," conducted by nonscientists and absent of any scientific evidence. The CDC was forced to remove information on five comprehensive sex education programs supported by scientific studies from its website (Rushing, 2004). To obscure the fact there is no scientific evidence indicating abstinence-only programs work in reducing unwanted pregnancy, the Administration measures the effectiveness of abstinence programs by tracking only participants' attendance and attitudes rather than the birth rate of female participants (UCS, 2004a).

The Bush Administration removed information on the effectiveness and proper use of condoms in preventing sexually transmitted diseases from the Center for Disease Control (CDC) website, and replaced it with a "fact sheet" that emphasized condom failure rates and the effectiveness of abstinence. Also removed was discussion of scientific evidence that sex education does not lead to increased sexual activity (Waxman, 2003).

Research, including a Danish study of 1.5 million women, has concluded there is no link between abortion and breast cancer. However, in 2002, The National Cancer Institute (NCI) removed from its website a fact sheet that reflected scientific consensus and replaced it with one inferring studies in this area were inconclusive (Rushing, 2004). This action resulted in so much outrage from abortion rights and breast cancer advocates as well as the scientific community that in 2003 the NCI was compelled to bring over 100 experts together to reexamine the issue. The experts concluded, again, that there is no link between abortion and breast cancer (Mooney, 2005).

In 2002, Dr. W. David Hager, a religious conservative who had lobbied for reconsideration of the Food and Drug Administration's (FDA) approval of the drug RU-486 and whose scholarship included medical books with conservative religious themes, was nominated to chair the FDA's Reproductive Health Drugs Advisory Committee. Previously, eminent reproductive health scientists had been nominated for this position. Following protests by scientists and others, Dr. Hager was not named the chair but he was placed on the committee (Waxman, 2003). In 2003, the acting director of the FDA's Center for Drug Evaluation and Research overturned the advice of two scientific panels and his own staff in refusing to approve the emergency contraceptive "Plan B" as an over-the-counter drug. This action was taken despite the fact that the FDA is required by law to approve drugs found to be safe and effective (UCS, 2004b). In 2006, after considerable protest from the medical community and women's groups, the FDA approved over-the-counter non-prescription sales of Plan B by licensed pharmacists to women 18 or older, with a prescription still required for sales to women under 18.

Stem Cell Research

On August 9, 2001, President Bush announced that he would allow federal funding for research only on stem cell lines developed by April 2001. He noted that more than 60 stem cell lines existed at that time that "could lead to breakthrough therapies and cures" (The

White House, 2001). In September of 2001, however, HHS Secretary Thompson declared that only 24 or 25 cell lines were mature enough for most research (Agres, 2003). In May 2003, the Director of the National Institute of Health informed Congress that only 11 stem cell lines were widely available to researchers, and that all of these 11 cell lines may be contaminated by viruses and thus inappropriate for human use. New methods for developing uninfected stem cell lines have been developed, but cannot be used because of the Bush ban (Waxman, 2003).

In 2002, the President's Council on Bioethics, chaired by a neoconservative and with a membership tilted in favor of the Bush Administration's agenda, recommended a moratorium on cloned embryo research. Council member Elizabeth Blackburn, a prominent researcher and former president of the American Society for Cell Biology, voted against a moratorium and criticized the Council's reports as unscientific. Blackburn was dismissed from the Council. After her dismissal, she complained that Council members consistently resisted the presentation of research that supported the capabilities of cloned embryo research (Mooney, 2005).

Dietary Science

In 2002, the World Health Organization (WHO) and Food and Agriculture Organization (FAO) issued a research-based report calling for consumers to eat more fruits and vegetables and to reduce fats and sugars in their diets. In particular, the WHO/FAO report recommended that free sugars should be limited to 10 percent of one's diet. This seemingly common-sense statement angered the U.S. Sugar Association and its friends in the Bush Administration. In 2004 the Administration declared that it rather than the WHO would decide which U.S. government scientists would serve as advisors to WHO. The WHO would be required to submit requests to HHS, and HHS then would appoint an expert to participate in WHO projects. Moreover, tight restrictions were placed on U.S. government scientists' travel to international meetings, and even to WHO and other UN organizations' meetings in Washington D.C. Trips by the U.S. government scientists to WHO meetings in Washington D.C. would henceforth be considered "foreign travel" (Mooney, 2005).

Environmental Pollution

Coal-fired power plants are the nation's leading cause of mercury air pollution. From May 2002 until February 2003, the Bush Administration suppressed an EPA report linking high mercury levels in women's blood to brain damage in children (Rushing, 2004). Only after the report was leaked to the Wall Street Journal by an EPA official was the report released to the public (Fialka, 2003). Political appointees bypassed EPA scientists and advisory panels in writing new, industry friendly rules on mercury emissions. Indeed, some language for the new rules was taken directly from documents prepared by industry lawyers. Comparative studies of the new rules required by EPA procedures were stopped by the Bush Administration (UCS, 2004a).

A report presented by Representative Henry Waxman (2003) has accused the White House of stacking a National Center for Environmental Health advisory committee with members closely aligned with regulated industries. For example, two of fifteen new members appointed to the committee were Roger McClellan, former director of the Chemical Industry Institute of Toxicology, and Becky Norton Dunlop, vice president of the conservative, anti-regulatory Heritage Foundation (Rushing, 2004). While appointing pro-industry members to its environmental advisory committee, the Bush Administration has engaged in censorship of reputable environmental scientists. For instance, James Zahn, a researcher for the U.S.

Department of Agriculture (USDA), conducted research showing that air emissions from hog confinements can spread antibiotic-resistant bacteria (Harder, 2003). The USDA would not allow Zahn to submit this finding for publication or even share the finding in talks to citizens' groups. Zahn eventually left the USDA (Beeman, 2002).

The abuse of scientific advisory committees and committee members by the Administration is not limited to environmental experts—it cuts across all areas of science:

Since President Bush took office, some of the most politically sensitive committees have been dissolved. Others have been transformed into platforms that the Administration can use to pursue its social goals. When members of such boards do speak out against White House policies, they have been removed (Specter, 2006).

Cross-Cutting Patterns

Our examples from the lead-up to the Iraq war and science reveal patterns of deception by the Bush Administration that cut across policy areas traditionally informed by non-partisan research and acknowledged experts in the field. Pope and Rauber (2004) sum up the Administration's approach:

For this president, facts are endlessly fungible, whether about weapons of mass destruction or the threat of global warming. His administration declares scientific studies that support his position to be "sound," while those that oppose it are "junk." Reports with inconvenient findings are sent to rewrite, and come back with the opposite conclusions. Government researchers who refuse to play politics find their funding cut off. Distinguished scientists are bounced from advisory panels, replaced by undistinguished extremists, often with close ties to the affected industries. And policymakers whose actions are supposed to be guided by science find themselves instead taking marching orders from the likes of Karl Rove, Bush's political consigliere (p. 40).

Close examination of the Bush Administration's actions reveal a number of specific techniques used to abuse processes that used to provide unbiased scientific information to policy makers and the public. These techniques are described in Figure 1.

Part III: Evidence-Based Educational Reform?

We believe that variations of techniques used to justify the Iraq war and to control science are used by the Bush Administration to control education across the U.S. Early in George W. Bush's first term as president, Bush's Department of Education (USDE) and the Republican majority in Congress were busy transforming American Education into what they called a scientifically-based field. The Administration-sponsored Public Law 1010-110 (2002), the No Child Left Behind Act (NCLB), referred to "scientific research" and "evidence-based practices" over 100 times. One goal of the USDE's 2002 strategic plan was to transform education into an "evidence-based field." In the Education Sciences Reform Act of 2002, the Republican controlled Congress called for scientific program evaluation that employed experimental designs using random assignment. Despite concerns raised by 300 different groups, including the National Education Association (2003), the American Evaluation Association (2003), and the American Educational Research Association (2003),

USDE published a final notice of priority for scientifically based evaluation methods, stating that none of the concerns it received warranted making any changes in the priority.

The similarity of terms like "science-based education" and "evidence-based educational reform" to the Administration's use of the term "sound science" in its efforts to control the physical sciences is not a coincidence. The "scientific" language tailored for education reflects the same pattern of deception the Administration used during the build up to the Iraq war and continues use in its war on science. The term "evidence-based educational reform" is used to convey the message that the educational establishment is unscientific and the Administration's actions are using rigorous research to reform the field. How can anyone disagree that "evidence-based initiatives" should replace old educational policy and practice based on "junk science"? When one looks at the Bush Administration's *actions* however, it becomes apparent that the "science" their actions are based on is not simply positivistic and reductionist, it is often nonexistent. The examples that follow represent a continuation of the deception and abuse described earlier.

Scrubbing www.ed.gov

Education web scrubbing started early in the Bush Administration. An internal memo was circulated at USDE entitled "Criteria & Process for Removing Old Content from www.ed.gov" directing that items posted prior to February 2001 be removed unless an item:

- was needed for a legal reason
- supported NCLB or other Administration initiatives
- was important for historical perspective (i.e., statistical trends)
- was important for policy reasons identified by an Assistant Secretary, or
- was useful or valuable for parents, students, and educators *and* was consistent with the Administration's philosophy (Waxman, n.d.) (emphasis supplied)

John Baley, the director of educational technology at USDE put a damper on the last exception, noting that much of the information available at www.ed.gov did "not reflect the priorities, philosophies, or goals of the present administration" (Davis, 2002, para. 7). To make sure that all politically unacceptable documents were scrubbed, each assistant secretary was told to include at least one person on their review team who "understood" the Administration's policies and priorities. A review board of Bush Administration hirelings reviewed the final list (Davis, 2002).

A group of national organizations, including the American Educational Research Association, the American Library Association, and the National Education Association wrote a common letter to USDE urging the Secretary of Education to reconsider the web scrubbing. The request was not seriously considered. One computer consultant correctly predicted that "doing [web scrubbing] clandestinely, heavy-handedly, or too broadly will reduce agency credibility and cause needless controversy" (Goldberg, 2002, para. 15). The Memory Hole (n.d.) was less diplomatic: "This is the very definition of George Orwell's memory hole-destroying material that conflicts with the current political climate" (para. 8).

Private School Vouchers and Private Management

In July 2006 the National Center for Education Statistics (NCES) released a study (Braun, Jenkins, & Grigg) conducted for NCES by the Educational Testing Service (ETS)

which made the Bush Administration unhappy. The study concluded that, when selected student and school characteristics were accounted for, there was no significant difference in achievement on the fourth grade National Assessment of Educational Progress (NAEP) reading test between private and public schools, and fourth grade public school students significantly outperformed their private school peers in mathematics. At grade eight, after adjustment, private school students significantly outperformed public school students in reading, but there was no significant difference in mathematics performance. Thus after adjustments public school students performed as good or better than their private school counterparts on three of four tests.

Even though NCES is part of the USDE there was no news conference or comments by Secretary of Education Spellings when the results of the study were made public. Rather, the report was released quietly, late on a Friday afternoon, the traditional time to release news you would like to have ignored. Four days later Secretary Spellings *did* hold a news conference, joining with Republican congressional leaders to announce a proposal to provide \$100 million dollars in vouchers for public school students to attend private schools.

The following month Paul Peterson, a proponent of vouchers, was the lead author on a paper calling into question the NCES-sponsored study. Peterson and Llaudet (2006) argued that the ETS study was flawed because of inconsistent classification of student characteristics in public and private schools and because ETS used characteristics (absenteeism rate, number of books at home, computer at home) that were "open to school influence." Peterson and Llaudet came up with their own models for adjusting test scores and, using their models, found that private schools outperformed public schools. These authors were careful to point out that they were not concluding that private schools were more effective than public schools at improving student achievement because the NAEP data did not include information on student's prior achievement.

The debate on whether public or private schools are more effective goes on. Given the realities that public schools must accept all students and private schools don't have to, and that private and public schools often have different purposes, attempting to compare them quantitatively is problematic to begin with. Moreover, there is a larger moral question that neither of the studies described above addresses. Given the historical underfunding of public education and the near certainty that large-scale use of private school vouchers will greatly reduce funding for public schools, what will happen to public schools? One extreme solution is to eliminate public schools altogether, a solution that some agree is the ultimate aim of the Administration.

The Bush Administration lauds studies that find private schools are more effective than public schools and labels as "flawed" studies that conclude public schools are as effective or more effective than private education. It is not the latest research in this area, however, that the Administration is really interested in; its mission all along has been to promote private school vouchers and other means of funding private education. Research is merely something to be cherry picked for support if it helps—or bashed if it hinders—the Administration's ideological drive to shift resources from public to private education.

A related issue is the takeover of poor performing schools by the state and handing over these schools to private management, two interventions for chronically poor performers advised by NCLB. The state of Pennsylvania, alarmed by years of poor performance by the Philadelphia schools, took control of the Philadelphia district. Since Pennsylvania took this action years before other schools across the nation would be subject to

takeover under NCLB, Philadelphia is viewed as an early experiment on NCLB-like sanctions.

Pennsylvania instituted a "diverse provider model" for the Philadelphia schools. Part of this model involved turning 45 of the district's poor performing schools over to outside organizations ("private managers"), including some for-profit and some non-profit organizations. The outside organizations were given extra per-pupil funding. Another part of the diverse provider model called for restructuring 21 other low-performing schools, providing intensive professional support and extra per-pupil funding to these schools.

A team of researchers for the Research and Development (RAND) Corporation studied the improvement process in Philadelphia over four years (Gill, Zimmer, Christman, & Blanc, 2007). Unlike the ETS study discussed above, the RAND team compared student achievement during the study to achievement prior to the state takeover, so comparisons of progress over time were possible. The researchers found that the privately-managed schools did improve academically but, despite their additional per-pupil funding, they did not improve more than other low-performing schools in Philadelphia and Pennsylvania. On the other hand, the restructured schools that remained under district control improved in math more than the privately managed schools or district schools as a whole. The researchers concluded: "In sum, with four years of data, we find little evidence in terms of academic outcomes that would support private managers" (p.41). Despite research like the RAND study, the Bush Administration continues to push for privatization of public education. Regardless of all the rhetoric about science-based education, when it comes to the Bush Administration's drive toward privatization, ideology trumps research.

Reading First

Perhaps the best documented case in the Bush Administration's history of deception and abuse in the field of education is Reading First, a program central to NCLB. Reading First has made billions of dollars in federal funding available to the states, with 80 percent distributed by the state to high poverty districts with high numbers of K-3 students reading below grade level. The requirements of Reading First use familiar language; districts receiving funds are required to use "scientifically-based reading programs" and "research-based assessments." By October, 2003, all states had been awarded Reading First grants.

A report issued by the Center on Education Policy (CEP) in 2005 raised a number of concerns about Reading First (Scott & Fagan, 2006). The report noted that Reading First was more prescriptive than previous federal programs of this type. Activities sponsored by the grant had to include five "essential reading components" (Phonemic awareness, phonics, fluency, vocabulary, comprehension). Half of the districts receiving grants reported they had to revise their reading program to qualify for funding. The program also was more detailed in assessment requirements than previous programs. States were curiously consistent in the instruments they selected to assess reading. Two specific instruments often selected were the *Dynamic Indicators of Basic Early Literacy Skills* (DIBELS) and *A Consumers Guide to Evaluating A Core Reading Program Grades K-3: A Critical Elements Analysis*. Moreover, some states added these instruments to their applications after initial review of their applications by USDE. Concerns were raised in the CEP report that USDE might be promoting a particular curriculum and particular assessment instruments, activity that would be in violation of

federal law. The report also discussed teacher complaints that the reading programs and material promoted by Reading First inhibited teacher flexibility and interdisciplinary curriculum.

The Education Department's Office of Inspector General (OIG), an independent arm of the USDE, issued a report in September 2006 that addressed many of the concerns about Reading First and provided a revealing look behind the Bush Administration's rhetoric of science-based education. NCLB legislation called for a panel to review state applications for Reading First, with the panel including at least three representatives selected by each of four organizations: USDE, the National Institute for Literacy, the National Academy of Science, and the National Institute of Child Health and Human Development. Although each of the latter three organizations nominated at least three individuals, the actual reviews were carried out by 16 "subpanels" selected by USDE, none of which included adequate representation of the three other organizations. In fact, 15 of the 16 subpanels were made up of a majority of USDE nominees, and seven of the subpanels were made up completely of USDE nominees. None of the subpanels included representatives from all four organizations.

OIG further found that six sub-panel members had ties to particular teaching methods or reading programs that constituted conflicts of interest. The USDE's Director of Reading First personally nominated three reviewers with conflicts of interest. These reviewers served on seven of the sixteen subpanels, one of them chaired five subpanels, and collectively they were on subpanels that reviewed twenty-three state applications. In an email exchange with an USDE concerning a school district's complaint that some USDE reviewers were tied to the reading model Direct Instruction (DI), the Reading First Director stated:

Funny that [The Baltimore City Public Schools official] calls *me* to inform there may be some pro-DI folks on *my* panel!!! Too rich!... You know the line from Casablanca, "I am SHOCKED that there is gambling going on in this establishment!" Well, I am SHOCKED that there are pro-DI people on this panel! (USDE, OIG, p.18).

In an email exchange with a USDE employee concerning a question from the media on whether the review panels were being stacked against Reading Recovery—a program opposed by the Bush Administration—the Reading First Director commented, "Stack the panel?...I have never *heard* of such a thing...<harrumph, harrumph>"(p.18). In a series of exchanges among Administration officials about a panel member who was not supporting Administration views, a senior advisor to the Secretary of Education commented, "We can't uninvite her. Just make sure she is on a panel with one of our barracuda types" (p.19).

Beyond the make-up of the review panels, OIG concluded that USDE did not follow its own peer review guidelines. First, USDE added language to the review criteria that was not in the NCLB. For example, the use of "explicit instructional strategies" is not referred to in NCLB but was part of a criterion given to the review panels. The Reading First Director noted "OGC [Office of the General Counsel] could likely have concerns with the overall, near-unrelenting **aggressiveness** of this application... the law does not really require what **we** are quite literally requiring in our (aggressive) application" (p.16).

Second, USDE removed from the review process language in the legislation that it did not like. An Assistant Secretary of Education wrote the following to the Reading First Director:

under reading first plan. i'd like not to say "this must include early intervention and reading remediation materials" which i think could be read as "reading recovery" [a reading program]. even if it says this in the law, i'd like it taken out. (p.15)

Third, rather than providing review panel summaries to the states, the USDE replaced the panels' reports with Expert Review Team Reports created by the Reading First Director and his assistant. These USDE officials deleted, changed, exaggerated, and misstated review panels' comments and created comments of their own. Fourth, USDE awarded grants to at least four states whose applications were not approved by the panels that reviewed them.

A key part of Reading First is the frequent use of reading assessment instruments. The National Institute for Literacy (NIFL) contracted with the University of Oregon's Institute for Development of Educational Achievement (IDEA) to review reading assessments to determine which ones were evidence-based. The assessment committee that IDEA assembled determined that 24 of the reading assessments it reviewed had "sufficient evidence" for use as K-3 reading assessment. OIG found that seven of the "evidence-based" assessments were directly tied to assessment committee members. OIG also found that USDE intervened to make the assessment public without the permission of NIFL.

Finally, the OIG report found that, in violation of federal guidelines, USDE intervened to influence a state's selection of a reading program. In particular, the intervention was to encourage Maryland to adopt Reading Mastery, a Direct Instruction program published by SRA/McGraw Hill. USDE also intervened to influence reading programs being used by specific school districts. Specifically, USDE tried to keep districts from adopting whole-language reading programs. A portion of an email from the Reading First Director to an USDE staff member leaves no doubt about the Directors' bias, and how that bias was to be supported by "science-based research:"

Beat the [expletive deleted] out of them in a way that will stand up to any level of legal and [whole language] apologist scrutiny. Hit them over and over with definitive evidence that they are not SBRR [scientifically based reading research], never have been and never will be. They are trying to crash our party and we need to beat the [expletive deleted] out of them in front of all other would-be party crashers who are standing on the front lawn waiting to see how we welcome these dirtbags. (p.24)

As noted earlier, the USDE is prohibited from mandating or endorsing particular curricula or instructional programs.

Why Politicize Education?

Why has the Bush Administration been so interested in controlling education, an arena that traditionally has been left to state and local governments and, when dealt with at the federal level, has been addressed in a fairly nonpartisan manner? To understand this we must first look to Bush's two primary constituencies; social conservatives and the corporate sector.

Social conservatives do not like modern American Public Education. First, they are by philosophical nature essentialists, and they view public schools as hotbeds of progressivism. They are distressed that government-sponsored religion has been removed from public schools, and that topics such as sex education and evolution are part of the public school curriculum. In the view of social conservatives, public schools should either be radically reformed or done away with; at the very least, the federal government should support private schools as an alternative to public education.

The corporate sector views schools through its own market model (Sunderman, 2007), relies on schools to provide skilled but compliant workers, and is interested in the

commercialization of schools. Commercialism includes direct sales of items such as textbooks, tests, and instructional materials intended to help schools meet No Child Left Behind (NCLB) requirements. Commercialism also takes the form of in-school marketing of products to be purchased outside of school. Free educational television, for example, comes with commercial programming. Corporations also provide curriculum and instructional materials that include propaganda designed to counter criticism of corporate practice. For instance, a fast food chain provides fitness materials to schools in efforts to blunt criticism that its products contribute to child obesity (Molnar and Garcia, 2006). Finally, the ultimate commercialism takes place when corporations begin to manage or own large numbers of schools.

In addition to Bush's constituencies, we must understand an aspect of the Administration that might be referred to as "neoconservative federalism," which is very different from traditional conservative views on the role of the federal government in education. Sunderman (2007) argues that NCLB introduced neoconservative federalism to education: "With NCLB, the objectives of Republican reformers have changed from limiting the federal bureaucracy and decentralizing decision making to the states towards an activist bureaucracy that actively promotes particular political and policy goals" (Sunderman, 2007, pp. 1066-1067).

When we consider Bush's constituencies, along with his commitment to neoconservative federalism, the efforts of the Bush Administration to control education make perfect sense. The best example in education of the merger of social conservatism, corporate values, and neoconservative federalism is NCLB. Under this federal law, schools are required to test students only on the "basic" content areas. The required tests that states choose are for the most part (for reasons of efficiency and economy) multiple-choice tests that measure discrete skills and bits of knowledge, an approach that mirrors an essentialist philosophy. Instruction becomes "teaching to the test," with problems presented by teachers in daily lessons, student work sheets, and frequent practice tests all presented in the same format as the high stakes test.

Under NCLB, schools must make "Adequate Yearly Progress" (AYP), measured by their states' high stakes achievement test. States that do not establish and measure AYP will lose their federal funding. In their efforts to meet AYP goals, many schools narrow their curriculum to tested content, engage in countless hours of drill and practice testing, and spend millions of dollars on "test prep" materials (scripted lesson plans, student work sheets, computer software, practice tests, and so on). Schools that do not make AYP for two consecutive years must provide low performing students the opportunity to transfer to higher performing schools and pay transportation costs. Low performing schools must also pay for the cost of supplemental instruction for low-performing students, delivered by outside providers from the private or public sector. Repeated years of low performance can result in the school being closed. Private and parochial schools that receive government vouchers and grants are not subject to NCLB.

NCLB calls for all schools to achieve 100% proficiency in all tested subjects by the 2013-2014 school year, a goal that most experts consider impossible. Given this questionable goal and the fact that the federal government has not allocated sufficient resources for schools to have a fighting change to reach the goal, the argument that the ultimate purpose of NCLB is a national shift from public to private education is one that must be seriously considered.

The combined influence on the Bush Administration of social conservatism, the corporate sector, and neoconservative federalism is evidenced across the Administration's educational agenda. Its support for public funding for private and religious schools, its scrubbing of

government documents that disagree with corporate or socially conservative views of education, its withholding of federal funding from states and school districts that do not adopt essentialist educational programs developed by corporate friends, its spotlighting of educational research that supports essentialism and privatization and ignoring of research that supports transformational learning or public schools—all of these point to the Bush Administration's allegiance to social conservatives and big business, and its determination to use the full power of the federal bureaucracy to force its ideology onto states and local school boards.

Our examples from Education confirm the recurring patterns of behavior (or perhaps we should say "misbehavior") by the Bush Administration, whether the topic is the war on Iraq, the war on science, or the war on public education. Our discussion below will focus on addressing the Administration's abuse of public education.

Part IV: Discussion: Addressing the "Evidenced-Based" Abuse of Education

Against such a comprehensive backdrop of misrepresentation, lying and bullying it is difficult to know where to begin to unravel the vast web of deception that has come to so uniformly characterize the Bush Administration's approach to schools and educational research. We should add that what is occurring at the moment is not unique or limited only to the U.S., indeed it has become something of a defining hallmark of government policy towards education around the world. What makes it different at the current point in time in the U.S. is that under the Bush presidency, deception, manipulation and subterfuge around schools and educational research have been carried to a new level of alarming sophistication, most notably through the NCLB Act.

As a precursor to our analysis we want to underscore the proposition inherent in the title of our paper, namely, that what was advanced as evidence of military intelligence as the basis for invading Iraq, what is coming to pass as supposed evidence in scientific research more generally under the Bush Administration, and what masquerades as a rationale for the degradation and covert privatization of public education are all derivative of the same mindset; one that touts the crucial importance of evidence, while eschewing and subjugating anything with which it does not agree. The only evidence that counts is that which Administrations like that of Bush agree with ideologically; evidence not of the 'right kind', does not count. There is more than a little irony in Secretary of Education Spellings adage that "In God we trust, everybody else bring data".

Representations like this are simplistic in the extreme and lend themselves to trivialization and quick-fix superficial 'solutions'. Excessive reliance and pre-occupation with data and evidence of the kind being claimed as necessary in human relations areas like education is deeply corrosive. Such approaches actively undermine the essence and character of the activity being engaged in by schools. It flies in the face of the profound complexity of what constitutes meaningful knowledge about what is going on inside schools by presuming that knowledge can be garnered in distant and hands-off ways. In reality what occurs when schools are engineered in these kinds of ways through flawed reliance on data is that relationships are institutionalized and impersonalized.

We believe that educational research that damages or maims students and that is not uplifting of the educational experience is abusive research.

In times of deep national crisis the U.S stands out in the world as having a profound capacity of going down a path of measures designed to curtail, contain, compel and closely

control the activities of its citizens. Judging by what is currently happening across a range of areas of everyday life in the U.S., the nation is deeply embedded in such a crisis at the moment. Nowhere is this more evident than in what is occurring in educational policy and to educational research. Official policies are eerily reminiscent of utterances made at the height of the Cold War by groups like the National Commission on Excellence in Education (1983) when it made its now famous declaration in "A Nation at Risk":

If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war. We have, in effect, been committing an act of unthinking, unilateral educational disarmament (p. 1).

What appear to be the deep psychological drivers in such circumstances is a constellation of three interrelated factors:

- an unswerving quest for certainty and the postulation of absolutes, in a context of complete intolerance of ambiguity;
- a passionate need to demonstrate political relevance through conveying a strong "can do" mentality;
- naked opportunism to extend control to all aspects of life on the grounds of fictional constructions of threats to the 'national interest'.

The relay through which this is operating in the field of educational policy, schooling and educational research is the official infatuation with evidence-based approaches, or what are also referred to for reasons of supposed enhanced respectability, as 'scientific' approaches.

Much wordage has been generated recently around the alleged merits and shortcomings of the current policy infatuation with evidence-based and scientific approaches to education—some of it informed, some of it misguided, and some of it mischievous. We don't want to unnecessarily add to that largely "unreflexive mantra" (Ball, 2006a, p. 1) by covering territory already traversed by others, but we do wish to highlight some of the key assertions of this approach. Our primary interest is to raise for discussion some new questions about evidence-based approaches, especially in the context of the list of deceptive techniques we outlined earlier. We want to start out by foregrounding the basic claims made by the proponents of evidence-based approaches, particularly as they allegedly relate to educational research. We understand them to be as follows:

- rigor
- certainty
- objectivity
- consistency
- establishing causal relationships
- enhanced relevance for practice
- accountability
- value for money
- restoration of public trust

- basis for informed decisions
- moving beyond political ideology
- new basis for interface with 'customers'
- better informed interventions
- means of ensuring quality
- production of a sound knowledge base
- improved outcomes through treatments
- betterment of professional practice
- creation of a 'gold standard' though randomized control trials.

The kind of questions we think need an airing around evidence-based approaches are:

1. What is it?
2. Why are we having it now?
3. Who benefits?
4. Who gets excluded?
5. Who gets damaged?
6. What view of education is being perpetuated?
7. What view of society is being endorsed?
8. How is equity and democracy being advanced?
9. What kind of mindset is being advanced? and
10. Where to from here?

While we don't intend to deal with these questions in anything like a seriatim way, we ought to say at the outset that there is a deep underlying problem here and it is one that is candidly identified even by some who are most sympathetic to the evidence-based cause. As UK authors Davies, Nutley & Smith (2000) put it in the conclusion to their book:

Most of the arguments set out in this book are predicated on the assumption that the pursuit of evidence-based policy and practice is a desirable aim, in the sense that it will lead to the delivery of services closer to society's preferences than would otherwise have been the case. It is something of an irony that there is little evidence on which to base such an assertion—it remains an act of faith (p. 352).

The authors present the sobering judgment that proposing this as an approach may be to "rely too heavily on rationality" (p. 11) in contexts that are "chaotic" and that "the term 'evidence-based' may itself be rather misleading. In many cases evidence-informed or even evidence-aware policy and practice is the best that can be hoped for" (p. 353).

Erickson (2005) is an instance of a U.S. scholar who has discussed with some passion what is meant by evidence-based research in the U.S. and the way in which he sees it as being "seriously flawed" and a "a dangerous [form] of social engineering"(p. 4). He illustrates his

point in part by reference to the Department of Education's recently established "clearinghouse that will tell you what works—and only evidence derived from randomized field trials will be reported by that clearinghouse" (p. 8).

Erickson's argument is that the Bush Administration through the activities of USDE is engaging in and promulgating a massive, delusional, deceptive and highly selective fabrication of the relationship between educational research and the conditions necessary for educational improvement. The way this is occurring is through the dual strategy of denigration and disparagement of educational research and practice, at the same time as a preferred parallel construction is being posited as to how educational improvement ought to be occurring through emulating the supposedly more rigorous and objective field of 'real science' in medical research and practice. The way the figment gets to be perpetrated goes like this (and here we are indebted to Erickson & Gutierrez, 2002, for drawing the USDE's strategic plan to our attention):

Unlike medicine, agriculture, and industrial production, the field of education operates largely on the basis of ideology and professional consensus. As such, it is subject to fads and is incapable of the cumulative progress that follows from the application of the scientific method and from the systematic collection and use of objective information in policy making. We will change education to make it an evidence-based field (p. 50). . . [T]he Department will create and regularly update an online data base of scientifically rigorous research on what works in education (U.S. Department of Education, 2002, p. 52).

According to the line of argument being pursued by Erickson & Gutierrez (2002), singular reliance on narrowly focused experimentally derived causal explanations of educational program effectiveness as the supposed gold standard is a fanciful gross oversimplification and misrepresentation of how things actually work in the scientific and medical worlds. As they put it, it is far less predictable and certain than we are led to believe, and over many years, real scientists have been shown to be:

. . . anything but disinterested and canonically rational. In their daily practice they are passionate and argumentative, profoundly selective in their attention to evidence, and aesthetic in drawing conclusions from it. The actual "culture of science". . . is far from the white coat image that appears to the layperson. The accumulation of knowledge in actual science is not at all continuous—it moves by fits and starts. Real science is not about certainty but about uncertainty (p. 22).

Erickson & Gutierrez (2002) claim that what is going on here has more to do with wishing to give "the appearance of rigor in educational research rather than its actual substance" (p. 22). In other words, all of the huffing and puffing from the USDE about changing education to make it evidence-based through scientific rigor, controlled experiments about what works warehoused through exclusive restrictive clearinghouses, is nothing short of a complete sham. Resort to the medical field from whence evidence-based approaches come is a totally misguided direction in which to be heading in education, for several reasons. Firstly, singular reliance on randomized experimental trials about what allegedly works in education tells us nothing about "how or why those treatments 'work'" (p. 22). When we know nothing about how things operate educationally, when we refuse to listen to or take heed of the views of insiders, practitioners and students, then what we have is a knowledge base that is little better than "educational superstition" (p. 22). Such official zealotry and naivety based on such huge leaps of faith is "truly alarming" (p. 22). Berliner (2002) put the extent of this move in some perspective when he said:

The 'evidence-based practices' and 'scientific research' mentioned over 100 times in the No Child Left Behind Act 2001 are code words for randomized experiments. . . (p. 18).

Secondly, actively excluding local effects, which is central to the evidence-based approach, is to assume a "high fidelity implementation [that] is rare in education" (Erickson & Gutierrez, 2002, p. 21). Put another way, no amount of exhortation, pressure for accountability, or research scrutiny is going to effectively counter the "real world limits of how 'faithful' the implementation of even the most structured of instructional programs. . . [T]he causal inferences drawn from the inspection of outcome data will remain unwarranted, and they are likely to be partially misleading half-truths" (p. 21). In the medical world from whence evidence-based practices comes, "contingent circumstances" continually operate to confute and confound the conclusions of experimental studies "because of the enduring, embarrassing presence of locally constructed social facts (e.g that many patients do not follow the prescribed medical regime: they don't take their pills or do their exercises)" (p. 23). Finally, in education as well as in medicine, we have no way of guarding against the many unintended and undesirable side-effects—that is to say, "premature conclusions about 'what works' in the short term. . . [that] can provide false warrants for the educational equivalent of thalidomide" (p. 23) Put most simply, the short term press for raised achievement scores may be producing untold future educational damage.

An intriguing question at this point is why we are having evidence-based approaches inflicted upon educational research and educational practice, now, and what forces are actively holding this perspective in place. This is a complex question to which there are no simple answers. Unquestionably a major part of the explanation lies in the way as societies and as citizens we have allowed ourselves to become mesmerized (perhaps traumatized ?) by the political spectacle constructed by political elites around applying corporate, military, mechanical and medical models to the solution of complex and intractable educational questions. In the process, we have allowed ourselves to be completely seduced by the mainstream media into believing that the only way we can operate educationally is as compliant consumers—exercising choice, demanding high standards, insisting upon value for money through accountability schemes, being assured of quality, and generally allowing schools to be regulated by the market. Not surprisingly, the educational intelligentsia has been completely silenced and marginalized. There has been no debate about the virtues of approaches like evidence-based reform, and instead of robust debate, educational matters are presented to us as if they were settled and there is not other way of thinking about the issues.

Notwithstanding, the more pressing issue is how to proceed from here. While it is possible that we could proceed with a blow-by-blow critique of evidence-based approaches, in the end that may not be that helpful, especially in the light of the amount of that already done by others. We are much more inclined towards the line suggested by Lather (2004) on how we might "put our critical theory to work" (p. 763). In other words, how we might constructively use our theoretical, philosophical and ethical vantage point to puncture the postulates of the evidence-based movement, or as Lather (2003) puts it "interrupting a discourse one finds so profoundly troubling" (p. 9), pointing up its gross disparities and inequities, highlighting how it degrades research and practice, and in the end, what needs to be envisaged and enacted in the interests of a healthier democracy. No mean feat! What Lather (2003) is suggesting practically-speaking is "a focus on program evaluation as a particularly cogent site where a policy relevant counter-science might be worked out" (p. 9). Among her suggestions are guiding questions that include: "Where are we going with

democracy in this project? Who gains and who loses and by which mechanisms of power? Given this analysis, what should be done?" (p. 9).

The essence of Lather's (2004) argument is that the official turn to evidence-based approaches to research, when bracketed with the incessant accountability mantra, amounts to an "unprecedented federal takeover of public education" (p. 759). What this "legislating scientific method in the realm of educational research" (p. 759) constitutes is a massive "backlash against the proliferation of research approaches of the last 20 years" (p. 760). According to Lather (2003), the "nakedly political" nature of what is occurring through the pursuit of a "unified idea of science", becomes glaringly apparent when we consider the Bush Administration's "web scrubbing," discussed above. Commenting on the similar Australian experience, Davies (2003) argues that far from producing the objective data that it claims, what we have instead is the use of evidence-based approaches to implement a "managerialist agenda" (p. 98). The crucial but largely obfuscated questions, according to Davies (2003) are, "which evidence . . . and who selects it?" (p. 98). The kind of questions not being asked, are:

Are those who produce the evidence and those who select it members of the profession of teaching? How have they chosen what counts as evidence, and how have they selected the particular evidence that is to be acted on? And, finally, how are the links to the everyday practice of teaching to be accomplished? (p. 98).

Davies (2003) draws our attention to the raft of practical impossibilities, or more likely the "sleight of hand embedded in the term itself" (p. 100) in which it becomes glaringly apparent that policy makers and bureaucrats have neither the resources nor the skills and training with which to assess and infer their relevance. Davies says that a more likely scenario is a managerialist one in which objectives are prescribed first, followed by "experimental research evidence . . . generated to justify them" (p. 100):

As long as the objectives have been met (according to the auditors), then questions about the appropriateness of the evidence for good teaching or the capacity of the teachers to act on it can be left unasked and unanswered. Critique, in this model, becomes irrelevant (p. 100).

What is at work here Davies (2003) says is either extreme naivety or outright manipulation:

Evidence-based practice's preference for experimental evidence reveals *either* a naivety about research, *or* a hidden, managerialist agenda that has little to do with research findings and their implications for practice . . . The idea that professionals can be shaped by 'evidence' legitimated by managers and funding bodies and by coercive policies that mandate action on the basis of that evidence belies the complexity of professional work (pp. 100-101).

A major part of the 'problem' is that education as a field of social science research is in the process of being constructed as if it were (or should be) theory less, which is to say only comprising data. Ball (2006a) says that this becomes glaringly apparent at scholarly gatherings either as "an indulgence or irrelevance to research" (p. 1):

Theory when it is talked about is either spoken in hushed tones, or it is some kind of add-on or aside that does little or no real work with the research reported . . . (p. 1).

The reason theory is being eschewed in this way is that the increasingly shrill cries of policy makers is continually berating us that all that counts is 'what works', and that theoretical considerations are really unnecessary, unhelpful and superfluous. Ball (2006b) argues that

exactly the reverse is the case and that we urgently need some heavy injections of theory into educational research, because of:

. . . its crucial role in epistemological decision making; in ensuring the conceptual robustness of conceptual categories; and in providing a method for reflexivity—that is, for understanding the social conditions of the production of knowledge (p. 9).

Ball (2006b) believes that there is a role for theory in doing 'violence' by confronting "constant overestimates of our grasp on the social world" (p. 9) and the role of theory "in challenging conservative orthodoxies and closure, parsimony, and simplicity. . . Much of what passes for educational research is hasty, presumptive and immodest" (p. 9).

Conclusion

The Bush Administration will soon be history, but there are important lessons to be learned from the tragedies of Bush's eight years in office; lessons for the new administration, citizens, and those who do research related to policy decisions.

Policy under all administrations is affected by ideology. What makes the Bush administration different is the breadth and the depth of its ideological intrusions; researchers and analysts who normally are allowed to work independently to gather information intended to inform policy have been ignored, misrepresented, bullied, and replaced by ideologues for the purpose of misleading the American people into believing that the Administration's policies were supported by solid data. Indeed, data themselves have been intentionally misinterpreted, even manufactured, by Bush operatives to create the illusion of data based decision-making. One lesson for future administrations is to draw a line between the policy-making level of the executive branch and the researchers and technical experts within and outside of the government who have the responsibility for gathering data, conducting analyses, and reporting results. The light shed on Bush's mischief by government employees, research groups, investigative reporters, and congressional investigations hopefully has reduced the chances of such extreme behavior on the part of future administrations.

One lesson to be learned by the American people is that criteria for future elected leaders should include the candidate's respect for the various research communities; a willingness to consider relevant data, alternative expert opinions, and the concerns of different stakeholder groups—including underrepresented groups; and a genuine respect for the democratic process. These criteria seem to us to be far more important than typical criteria for election to public office such as charisma, decisiveness, and public speaking skills.

Sometimes the electorate makes mistakes, however, and we cannot rule out the possibility of another deceptive and manipulative administration. The lesson learned by researchers across the spectrum of fields that interact with the government is that sometimes they must band together and take a stand against a dishonest government. The work done by the Union of Concerned Scientists (UCS) to resist the deception and manipulation of the Bush Administration is a shining example of a community of scholars standing up for one another and for the nation. Educational scholars might well benefit from the model provided by UCS.

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Figure 1: Deceptive Techniques

Intimidating: Pressuring a scientific or technical group to gather data, analyze data, or draw conclusions in a manner that will support the Administration's ideology.

Censoring: Preventing the publication or oral dissemination of research or theory that contradicts the Administration's ideology, or adding or deleting language in a manner that changes the meaning of the research or theory so it is consistent with the Administration's ideology.

Misrepresenting: Intentionally misinterpreting scientific or technical reports or bodies of research.

Cherry Picking: Presenting portions of scientific or technical reports that support the Administration's ideology while ignoring portions of the same reports that are not consistent with its ideology.

Using Discredited Research: Relying on research that has been discredited by the scientific community to support the Administration's ideology.

Magnifying Uncertainty: Focusing on normal statements of caution in scientific reports or outlying scientific studies to create an illusion of great scientific uncertainty in areas in which a scientific consensus actually has been reached.

Relying on the Fringe: Using the testimony of scientists who have drawn conclusions contrary to the overwhelming majority of the scientific community as evidence that science which disagrees with the Administration's ideology is "junk science."

Stove Piping: Requiring scientists or technical experts to provide unanalyzed data directly to policy makers for their review and conclusion-drawing.

Layering: Using weak or unsubstantiated conclusions to bolster other weak or unsubstantiated conclusions.

Conflating: Combining different types of data that do not belong to the same category in order to influence results.

Scrubbing: Eliminating from a data base scientific or technical documents that disagree with the Administration's ideology.

Litmus Testing: Requiring nominees to scientific or technical groups to prove their loyalty to the Administration and its ideology. For example, Dr. William Miller, nominated to the National Advisory Council on Drug Abuse, was asked whether he supported faith-based initiatives, abortion rights, and the death penalty for drug abusers, and whether he had voted for president Bush. After giving unsatisfactory answers to some of these questions, Miller was not appointed to the advisory council (Waxman, 2003).

Stacking: Controlling the selection of a scientific or technical group, or reconstituting an existing group, so that its membership is biased toward the Administration's ideology.

Redefining: Changing the mission of an existing scientific or technical group so that its outcomes will be inconsistent with its original purpose. For example, the Bush Administration directed Department of Interior scientists to change the focus of an environmental impact statement from minimizing the adverse environmental effects of strip mining to centralizing and streamlining the issuance of coal mining permits (UCS, 2004b).

Fox Writing: Inviting representatives of industry or social conservative groups to write scientific or technical reports, policy statements, or proposed legislation that favors both the groups' self-interests and the Administration's ideology (as in "allowing the fox to guard the henhouse").

Double Speaking: Identifying an Administration policy likely to be unpopular with the general public with language that projects a more positive image, often one that is the exact opposite of the policy's actual intent, (eg., the "Clear Skies Act").

Double Spinning: Attempting to avoid criticism of harmful Administration policies by blaming those who resist the policies. Examples include blaming environmentalists for the oil shortage and blaming those opposed to the Iraq war for policy makers' mistakes in military strategy. Double spinning thus has the dual purpose of deflecting criticism from Administration policies and attacking groups or individuals considered enemies of the Administration.

Bait and Switch: Using one rationale to gain the public's support for a policy, and switching rationales when the original rationale becomes indefensible. Once it was clear there were no significant amounts of WMD in Iraq, the primary rationale for invading Iraq became freeing the Iraqi people from Saddam and bringing democracy to the Middle East.

Table 1: Abbreviations Used in This Article

CDC	Center for Disease Control
CEP	Center on Education Policy
CIA	Central Intelligence Agency
DIA	Defense Intelligence Agency
EPA	Environmental Protection Agency
ETS	Educational Testing Service
FAO	Food and Agriculture Organization
FDA	Food and Drug Administration
IDEA	Institute for Development of Educational Achievement
INC	Iraqi National Congress
NAEP	National Assessment of Educational Progress
NASA	National Aeronautic and Space Administration
NCES	National Center for Education Statistics
NCI	National Cancer Institute
NCLB	The No Child Left Behind Act
NIE	National Intelligence Estimate
NIFL	National Institute for Literacy
OGC	Office of the General Counsel
OIG	Office of Inspector General
OSP	Office of Special Plans
PEER	Public Employees for Environmental Responsibility
RAND	Research and Development Corporation
UAV	unmanned aerial vehicles
UCS	Union of Concerned Scientists
USDA	United States Department of Agriculture
USDE	United States Department of Education
WHO	World Health Organization
WMD	weapons of mass destruction

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