

**Spring 2008
Industry Study**

**Final Report
*Education Industry***



ICAF

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EDUCATION 2008

ABSTRACT: Growing concern about educational quality is a worldwide phenomenon as success in a globalized economy depends ever more on cognitive skills, cross-cultural abilities and other “soft skills” as well as scientific and technical prowess. Concern in the United States is especially acute where public education essentially was invented and where it remains a fundamental social, cultural and political value. The ultimate paradox vis-à-vis U.S. education might be the contrast between our self-image as a pragmatic democratic nation with the rhetoric, spin and disingenuous discussion seen about public policy and *especially* education. These observations are based on our assessment that education in the United States will continue to be a mixture of top notch excellence alongside serious failure. Education is a key factor in a country’s success or failure on all fronts: economic, security, cultural and social. In other words, education as a process and the educational levels of a country’s citizens are societal centers of gravity. Indeed, while education may not be an “industry” in the obvious sense, we believe it is the key to the advancement of all other industries and entire nations. Toward that end, we propose some initiatives based on the idea that *the failing side of American education cannot be addressed systematically and credibly absent comprehensive policies that attempt to ameliorate the social, cultural and economic issues that often are associated with poor educational performance: urban and rural poverty, family dysfunction, homelessness, inadequate or missing medical care, substance abuse and poor nutrition (including the very serious issue of childhood obesity).*

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PLACES VISITED - SPEAKERS

Domestic

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 Boston Latin School, Boston, MA
 Boston Renaissance Charter School, Boston, MA
 Gerald Bracey - Educator
 Chelsea High School/Boston University Partnership, Boston, MA
 Council of Great City Schools, Washington, DC
 Department of Defense Education Activity, Washington, DC
 Educational Testing Service, Washington, DC
 Embassy of France, Washington, DC
 Focus HOPE, Detroit, MI
 General Motors University, Detroit, MI
 Harvard University Graduate School of Education, Cambridge, MA
 Home School Legal Defense Association, Purcellville, VA
 Houghton-Mifflin, Inc., Boston, MA
 Maryland State Department of Education, Baltimore, MD
 Jay Mathews – Washington Post
 Minuteman Regional High School of Applied Arts and Sciences, Lexington, MA
 Montgomery County Public Schools, Rockville, MD
 Mountain View Alternative High School, Centreville, VA
 Northern Essex Community College, Haverhill, MA
 Northrop Grumman Corp, Arlington, VA
 Ohio State Department of Education, Columbus, OH
 Potomac Job Corps Center, Washington, DC
 Thomas Jefferson High School for Science and Technology, Alexandria, VA
 US Department of Education, Washington, DC
 US House of Representatives, Committee on Education and Labor, Washington, DC
 Washington DC Public Schools, Washington, DC
 World Bank Human Development Network, Washington, DC

International

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 EADS Corporation, Ulm, Germany
 Enfield County Schools, Enfield, England
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 Kings College, London, England
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Introduction

Education n. 1. The act or process of educating or of being educated.....5. An instructive or enlightening experience: *Her work in the inner city was a real **education**.*¹

Industry n. 1. Commercial production or sale of goods. 2. A specific branch of manufacture and trade: *the textile industry*.....5. Energetic devotion to a task or an endeavor; diligence: *demonstrated great intelligence and **industry** as a prosecutor.*²

Churchill's observation that "*Russia is a riddle wrapped in a mystery inside an enigma*" might apply to American education. The more we (ICAF's 2008 Education Industry Study) explored the subject, the more complexities, paradoxes and enigmas we encountered. Not the least of the difficulties may have been our attempt to fit a round peg (education in the sense of 1. above) into what seems to be a square hole (industry as defined by 1. or 2.).^a Though we cannot entirely resolve this difficulty, we know that education is a key factor in a country's success or failure on all fronts: economic, security, cultural and social. In other words, education as a process and the educational levels of a country's citizens are societal centers of gravity. Indeed, while education may not be an industry in the obvious sense, we believe it is the key to the sustainment and advancement of all other industries and entire nations.

Perhaps our most important discovery was that education as "*an instructive or enlightening experience*" is vital to the success of education as "*the act or process of educating or of being educated.*" In a very real sense, kids raised in an environment that continuously offers them instructive, interesting and stimulating experiences are more likely to succeed than those who do not. This point was constantly brought home to us in the United States and when we visited England and Germany. The adage that "the best way to succeed in education is to choose the right parents" seems to be true everywhere. Teachers, and above all parents, who demonstrate *energetic devotion (i.e., industry)* to the task of educating children are the ones most likely to create success. Achieving educational success on a *macro* level may be one of the toughest challenges facing the United States today, and as our paper will note, **clear or easy solutions are neither obvious nor readily available.**

The most striking American education paradox is the existence of outstanding success alongside abject failure. American education encompasses what many regard as the world's most diverse and best institutions of higher learning. These offer opportunities and achieve results that are the envy of the world; foreign students eagerly seek entry into our colleges and universities. These institutions also attract many of the world's best and brightest faculty and researchers. Similarly, outstanding public school systems and private schools produce high school graduates that can stand alongside the best anywhere. But there is a paradox here as significant numbers of American children attend schools that produce mediocre results or worse. These problems often embody a vicious cycle of failure spanning government, politics and economics along with challenging cultural and social issues. Analogous problems exist in England and Germany where children from certain backgrounds (e.g., working class or immigrant) tend to face greater struggles, including not-very-obvious cultural and social barriers; for example, a school administrator in England observed that working class kids who excel

^a We realize that a round peg of given diameter can fit snugly into a square hole provided the diameter of the peg matches the dimensions of the square, but the peg would touch the square tangentially, which illustrates our point that the relationship between education and industry seems indirect or **tangential**.

academically often fail admission to top tier universities such as Oxford or Cambridge because they do not seem to perform as well on interviews as counterparts with more advantaged backgrounds.

Growing concern about educational quality is a worldwide phenomenon. Success in a globalized economy depends ever more on cognitive skills, cross-cultural abilities and other “soft skills” as well as scientific and technical prowess. Concern in the United States is especially acute where public education essentially was invented and remains a fundamental social, cultural and political value. Our founding fathers noted the importance of a well-informed citizenry to the success of democracy. Education became a key element for social

mobility and economic success in our country, and Sputnik in the fifties launched education as a national security issue with concern about the Soviet Union’s perceived technical and scientific strength. This engendered fear that the United States lagged in these key areas. Analogous fears existed over economic competition from Japan and exist today as we divine potential threats and competition emerging from the rise of less developed countries such as China and India (see Figure 1³). At the same time, the United States faces ever tougher economic, cultural and other forms of competition from developed regions such as the EU.

As one university administrator told us with regard to his institution, “We are not a business, but we need to be businesslike to succeed.” This paper will look at the economic issues



Figure 1: Education Imperative?

in education and describe some of the key aspects of U.S. education that we explored as an ICAF Industry Study. A recurring theme will be the tension in U.S. education policy due to our federal system under which states and localities have primary responsibility for education, making it very difficult to address important issues on a consistent national level. We will look at the connections (or lack thereof) between education and national security along with some of the international aspects of education. Here we will look at skills such as foreign language proficiency, cross cultural awareness and other abilities that have high value in a globalized economy. Our visits to England and Germany underscored that the EU has made cross cultural awareness and integration key objectives for students. For example, English students of varied backgrounds and levels easily visit Paris, Berlin, Madrid and other EU cities on school sponsored travel. Limited cultural awareness opportunities for American kids could diminish their ability to succeed in a globalized world.

Finally, we offer some recommendations to improve education in the United States. We stress, however, that we only scratch the surface. By no means can we offer comprehensive

solutions because these remain unknown to us. If after seeing our paper, readers better appreciate the complexities and rhetoric involved in education and begin to understand that education in America may be “*a riddle wrapped in a mystery inside an enigma*,” consider yourself ... educated.

An Industry? – Businesslike but not a business

One economist’s observation that “Higher education is a business: it produces and sells educational services to customers for a price and it buys inputs with which to make that product”⁴ can be applied (though sometimes more indirectly) to all education. Although the North American Industry Classification System (NAICS) includes education services as an industry (primarily for the purposes of collecting statistics), education exhibits so many anomalies when compared to traditional commercial undertakings that only an idiosyncratic interpretation of *industry* might apply to education. Perhaps the cataclysmic rhetoric of the 1983 report “A Nation at Risk” instilled within Americans a sense that the quality of our educational system directly affected economic competitiveness. In truth, however, a credible direct causal relationship between education and economic competitiveness has not been clearly established.⁵ For example, the rising tide of Asian and European dominance of international achievement tests has not resulted in any equivalent economic dominance at our expense. Education is not homogeneous - its inputs, products, funding sources, and competitive models vary by type, size, national and regional culture, and in many other factors. In our own education system, sectors that seem to be more “businesslike” (e.g., private schools, charter schools, colleges and universities) compete in smaller segmented markets, but nevertheless exhibit clear distinctions from purely commercial enterprises.

“American schools operate within the context of an enabling environment — an open economy, strong legal and banking systems, an entrepreneurial culture — conducive to economic progress.”⁶ Therefore, education produces important intellectual inputs to other industries that compete globally and help maintain our national security. Education researchers like Eric Hanushek suggest that the value of intellectual inputs is determined more by the cognitive skills and abilities of the population than simply the *quantity* of education. Nevertheless, education plays a key role in raising overall cognitive skills even if it does not guarantee successful outcomes for everyone.

Components of the Industry. Historically states and local governments have been responsible for the overwhelming share of education policy and funding, but the federal government has issued national calls-to-arms and other interventions at key moments in our history. While the percentage of education funding provided by federal sources is relatively small, the laws and regulations governing the obligations of state and local authorities to receive federal funds and to meet national requirements originate in Congress. Federal intervention is needed to address issues that span the states (such as educational requirements of special needs children) but it also is due to pressure from constituents and special interests. America’s decentralized system gives stakeholders a voice in local and national policies further complicating a complex landscape. Stakeholders include: students, parents, teachers, administrators, unions, community activists, local political leaders, business leaders, and state, local and federal governments.

The variety of education outlets these constituents influence is enormous. Traditional primary and secondary instruction (K-12), dating back to 1635 with the opening of the first

public school in the Massachusetts Bay Colony, no longer resembles the simple schoolhouse. Today's K-12 education comes in all shapes and sizes. There are traditional schools, magnet schools, special needs schools, vocational schools, private schools, and charter schools. Curriculums vary by locality, by school district, and type.

Depending on the school, funding sources can include a combination of federal, state, and local outlays as well as individual tuition and corporate donations. Even public schools pursue various fundraising strategies to augment public funding including corporate donations as well as supplemental funding from parents. The post-secondary market (college, university, and corporate institutions) is no less complex. There are junior/community colleges that provide vocational, professional, and academic courses; there are four year colleges and universities – some of which are state schools, others are privately financed.

In the category of post-secondary education are transitional institutions or job-training schools, which teach everything from machining to engineering, and corporate schools that are designed to offer their workforce training programs that enable them to stay technologically current or pursue various certifications. For the purpose of simplicity, unless otherwise noted the concepts discussed in this section will apply to traditional primary and secondary public education (K-12) and institutions of higher education (colleges and universities).

Scale and Economics.

In 2006, U.S. expenditures for education for all elementary, secondary, college and university institutions exceeded \$972 billion or 7.4 percent of the gross domestic product (GDP).⁷ This represents the second largest taxpayer expense behind social security and exceeds the entire defense budget.⁸ Of these expenditures, approximately nine percent originate from federal sources, while the remaining 93% come from state and local governments (see Figure 2⁹).

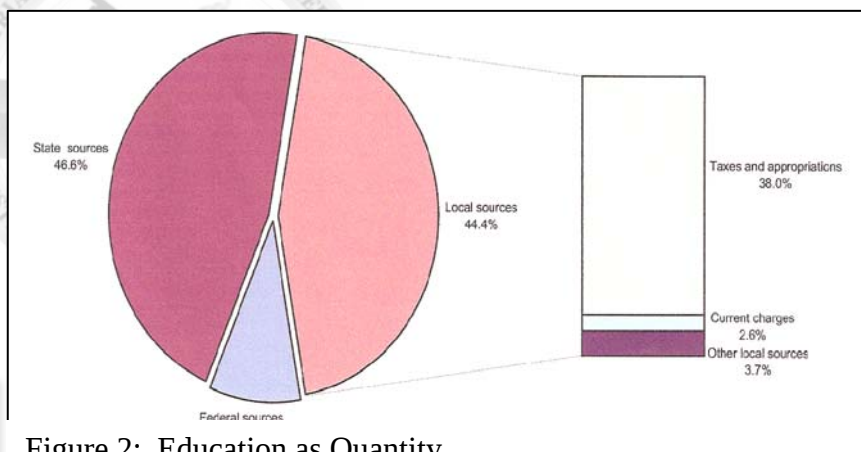


Figure 2: Education as Quantity

Local authorities provide operating budgets primarily by imposing property taxes on residents. States employ personal and corporate income taxes, and sales/excise taxes to support education. The variability associated with property values, tax bases and demographics (e.g., retirees may be reluctant to fund schools) creates significant disparities in local abilities to commit to and fund education. In addition, 42 states that use lotteries to raise funds. Many states marketed their lotteries as additional sources of revenue for education although evidence suggests some states used lottery funds largely as a *substitute* revenue source for education not to *increase* funding of education.¹⁰

In 2005-2006, the U.S. had 97,382 public schools and 6,858 degree-granting institutions of higher learning (4,276 two-year colleges and 2,582 four-year colleges).¹¹ Projected total enrollment in all schools for the fall of 2007 was 73.7 million students (55.7 million in elementary and secondary schools and 18.0 million in post-secondary degree granting

institutions).¹² Per pupil expenditures (adjusted for inflation) have more than doubled between 1970 and 2005.¹³ The Department of Education's long-term trend reports indicate that since 1971, average reading scores for students ages 9, 13, and 17 have remained virtually unchanged.¹⁴ In addition, results from international tests such as the Programme for International Student Assessment (PISA 2006) indicate that American 15-year-old students scored below the Organization for Economic Cooperation and Development (OECD) average in math and science, yet our average per pupil expenditure of \$8,935/year significantly exceeds the OECD mean of \$6,278.¹⁵

These historical examples highlight that educational performance is unlikely to be increased *just* by spending more money. Urban schools, like those in Washington D.C. typically spend more per pupil than far better performing schools in neighboring suburban areas. Similarly, students who are home-schooled frequently compete among the highest quartile of performers on scholastic aptitude tests. Of course, how funds are spent is crucial to deciphering the extent to which money matters.

Another issue that underpins virtually every facet of education is the difficulty in trying to measure performance of the system writ large. Intuitively education provides benefits to both citizen and society, both monetary and non-monetary; the complexity of factors contributing to positive societal outcomes is so intricate that direct causal relationships between educational attainment and specific outcomes are nearly impossible to measure. In lieu of that, most metrics associated with education measure outputs – how many students graduate, how different socio-economic groups perform on tests, how many students pursue undergraduate education, and so on. The inability to measure outcomes associated with instruction in schools frustrates virtually every effort to reform education. As a result, the education sector pursues reforms on an almost experimental basis – seeking desperately to establish best practices that can be duplicated across an entire school district or a state. Unfortunately, differences in size, demographics, cultures, and local politics matter -- reforms successful in a small district do not produce similar favorable outcomes when scaled to the state level.

Thus education has a very elusory quality that makes it easy fodder for naysayers to attack in the face of economic or security challenges and disheartens attempts of advocates to positively impact the system. Education in the U.S. might be seen as a service that, from one key standpoint, tries to produce a product – a “finished” student with a diploma or degree. It can also be seen as an investment in human capital with uncertainty about the eventual “return on capital,” though generally someone with an undergraduate degree can expect to earn significantly more over lifetime than a less educated counterpart.¹⁶

While schools exhibit many of the same attributes as a for-profit business (such as: operating and capital budgets; financial and accounting control systems; organization charts; and assessment and measurement systems) their economic models are quite different as discussed in the following paragraphs.

General Economic Anomalies. The market structure of K-12 education and higher operates similar to an oligopoly; institutions of undergraduate education operate within the trade space of monopolistic competition and oligopoly. Above all, educational institutions (for the most part) are “nonprofits” and are not subject to the same economic constraints that define the activities of privately or publicly held firms. Moreover, from the standpoint of their “customers” (students and parents), “People investing in human capital through a purchase of higher education don’t know what they’re buying—and won’t and can’t know what they have bought until it is far too late to do anything about it. Education is typically a one shot investment

expenditure, a unique rather than a repetitive purchase, more like buying a cancer cure than groceries.”¹⁷

In this sense, education is referred to as a “trust market” - trust in the service provider is a major customer concern and “the nonprofit structure of suppliers encourages the honest if profit-sacrificing behavior that justifies trust.”¹⁸ Unlike ordinary firms, nonprofits do not have “owners,” cannot be sold or bought, and because there are no shareholders or owners who seek to maximize returns, “the non-distribution constraint serves to soften the incentive that a for-profit supplier has to take advantage of the partially informed buyer.”¹⁹

Economics of Universities. Undergraduate education as an industry exhibits some other peculiarities compared to other business types. As non-profit organizations they function under a board of trustees and depend heavily on private-sector donations, while also receiving substantial revenues from student tuitions and government grants. Students participate as both customer and inputs to the industry. As customers they influence decisions of the institution, which must operate within a non-hierarchical governance structure that accounts for the interests of multiple parties. As supplier, they provide important intellectual inputs - contributing to their own education as well as the learning of other students.

In virtually all higher education, the student’s tuition does not cover the institution’s cost of production. The average student pays approximately a third of his/her costs. Even in elite schools with high tuitions, the student price is still less than a half of school’s costs. Therefore, “profits” are largely negative and institutions rely on donative resources and the returns on the college’s wealth to make up the difference.²⁰

The central economic fact about higher education is that universities attempt to maximize

Factors Discouraging Market Entry: • Industry as a whole is not returning excessive earnings compared to its cost of capital, therefore it is not attracting firms outside of the industry. • Business relies on economies of scale, which may or may not be a proper business model, and Edison currently serves more schools and districts than other competitors. • Product differentiation is primarily judged by the curriculum. Edison spent three years of research and millions of dollars to create its unique curriculum. • Top dog and first mover in an emerging industry. Edison is largest private manager of public and charter schools by several-fold over its nearest competitor. However, iEdison is not a strong consumer brand. • Government and legal barriers – Charter laws are tightening in some states. For example, in California charters now have to declare whether employees will be part of the collective bargaining unit of sponsoring school district. They also have to offer specified minimum number of instructional minutes and maintain written attendance records.	prestige versus profits and attracting high quality inputs (students) is the method they use. To do so, they set their market price below the supply demand curve to create excess demand. Among the more prestigious schools, this market price may be higher, which artificially signals increased quality of education that creates additional demand. Given the
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Figure 3: Education as Market

cumbersome economics of higher education, does it make sense to pursue a market-based structure for public K-12 education?

Two of the most debated ideas are Education Management Organizations (EMO) and charter schools. EMO firms are usually structured as for-profit entities that either provide “whole-school operations” serving as wholesale alternatives to public schools, or are contracted

by school districts to provide customized solutions to individual schools struggling to meet Adequate Yearly Progress (AYP).²¹

Market-Based K-12 Education. One alternative to address the issue of a perennially underperforming public education system is to partially privatize K-12 schools. The most prevalent development in this regard is the budding evolution of charter schools, particularly in many of the country's urban districts where public education systems are on the brink of failure. The underlying supposition of this movement is that charter schools create a market-like environment offering parents and students a choice to leave underperforming public schools to seek more responsive learning institutions without affecting the price these customers pay (both concerns are funded by tax receipts).

Although most charter schools are non-profits, the central motive of for-profit firms providing K-12 instruction is to post earnings. Unfortunately, in almost all cases these entities are privately held ventures and insights into their balance sheets are not readily available. One company, Edison Schools, which began operating in 1995, was publicly traded for almost eight years before it returned to private ownership.²² Its public filings during that time provide useful insights into the profitability of the industry.²³

Given that 84% of cost-of-goods-sold are salary costs, and the measure of an EMO's success (improving student scores) is highly correlated to hiring and retaining high quality teachers, the potential for necessary economies-of-scale to make their education model work is limited. In addition, potential entrants also face significant financial and legal entry barriers (see Figure 3).²⁴

Proponents of charter schools, however, point to another fact. The Heritage Foundation uncovered that "[e]arlier research by Dr. Caroline Hoxby tracked the competitive effects of charters on surrounding schools, finding that increased school choice raises school productivity and student achievement within the public school system. The report found that competition from charter schools in Michigan and Arizona, and from Milwaukee's voucher program, has compelled public schools to raise their productivity as measured by students' achievement gains."

With about 1.5 percent of students nationwide now attending charter schools,²⁵ the market experiment in K-12 education is underway. Although existing empirical literature does not provide definitive conclusions, charter schools can offer better value, similar educational outcomes, and the competitive pressure necessary to improve the quality of public schools. If this succeeds in inspiring modern education, then America's prospects for sustained prosperity would be lifted.

Economists generally support competitive markets that give consumers (students and parents in the case of education) more choice and possibly greater value. Though charter schools in many respects look promising, their growth potential may be limited and they are very much a work in progress. We point out that well-run school districts such as those of Fairfax and Montgomery counties near Washington, DC do not have charter schools and there is little desire to try this experiment.

Education in America

Several constituencies directly depend on America's educational system. Students depend on the system for the education, life skills and self-improvement needed to succeed, and parents have a stake in ensuring the system provides the tools necessary for their children to be

functioning adults in society. Society writ large is also an important constituent. As we have noted, the greatest paradox in American education could be the existence of top notch excellence alongside abject failure. The examples are numerous with some of the most striking at our ICAF doorstep, where an arguably dysfunctional public school system exists alongside some of the nation's best suburban school districts. This section focuses on some of the key aspects of education in the United States, but this is far from a comprehensive view.

No Child Left Behind (NCLB). The most noteworthy recent new federal education law is the No Child Left Behind Act of 2001. As with nearly everything with education, NCLB has proved controversial. NCLB attempts to encourage stronger accountability, greater flexibility for local use of federal funding, use of education methods based on research and rigor, and greater choices vis-à-vis education for parents and students.²⁶ While the accountability regime of NCLB may have been a step in the right direction, the need to achieve legislative consensus left many aspects of its implementation unspecified and as a result, ineffective.²⁷ Specifically, although Congress authorized almost all of the NCLB programs through FY2008, appropriators have never fully funded NCLB.²⁸ NCLB, fraught with impending reauthorization issues, continues this tradition. Republicans and Democrats have introduced 28 bills currently on the floor proposing amendments altering aspects of assessments, accountability, and science and math education.²⁹ Another complicating factor is the law's impending expiration. It is widely accepted that the confluence of political events and honest differences on proposed amendments will prevent the 110th Congress from reauthorizing NCLB before the next President takes office.

Despite the energy of Congress (and the Executive) to address the *quality* aspects of education, the legislation has largely affected matters of *access and equity*, and has not produced better overall performance. It has produced a maelstrom of resentment among teachers who claim it requires them to "teach to the test" and that it forsakes art and music courses in favor of math and reading. Other complaints include the absence of a "growth model," which does not give credit to schools that make progress toward goals, but do not meet them. These are critical issues that will have to be addressed before reauthorization of NCLB will receive bi-partisan support.

Early Childhood Education. Education begins long before a child enters kindergarten. Studies show that children who begin some form of organized education before kindergarten enter school cognitively and socially advantaged. As a result, they are more successful learners. In fact, school systems with universal Pre-K programs have reported placing fewer children in special education and holding significantly fewer children back a grade. Both of these results could ultimately lower the per student cost for school systems that take advantage of Pre-K programs. For example, in Massachusetts, a child who successfully completes K-12 education without being held back or placed in special education costs \$55,281 to educate. If that child repeats a grade, the cost rises to \$59,076. For a child placed in special education, the cost nearly doubles to \$113,260 (the numbers reflect state funding exclusive of federal and local money).³⁰

In addition to the benefits listed above, children who attend early education also achieve higher test scores, behave better in school, and are less likely to be involved with drugs and crime. What is interesting is that these successes appear to continue into the student's adult life. Children who attend formal education before entering kindergarten earn higher wages, are more likely to own a home, are less likely to participate in the welfare system, and are more likely to be employed and have a savings account. This suggests that children who receive early



Figure 4: Urban Education

education tend to make better life decisions, are better citizens and enjoy a higher quality of life.³¹

Urban Education. When we think of K-12 education, we may imagine the traditional suburban school with kids participating in class, engaged teachers, and an abundance of parental volunteers. However, with the growth of home schooling, the development of more robust vocational schools, and the vast population served by our urban schools, the idea of a typical American education is constantly

changing. The differences between school districts can be striking. For example, urban school systems have vastly different demographics and needs than solidly middle class suburban districts (see Figure 4³²).

For almost one quarter of U.S. students, the picture of a well-functioning suburban system is not even close to reality. While there are 16,850 public school districts in the U.S., just one hundred of them serve nearly a quarter (23%) of the nation's students.³³ These districts, many of which are located in urban areas, also serve 40% of the country's minority students and 30% of the economically disadvantaged students. Though urban districts may be few in number, but their impact can be huge. For example, the New York City school system in the 1920s and 30s became the intellectual crucible for immigrant upward mobility. Today, the record of urban districts seems mixed at best as academic excellence seems to have moved to the suburbs.

By looking at three school systems in the Washington D.C. metropolitan area, it is apparent that location greatly influences academic success. Problems that affect large urban districts similarly plague the D.C. Public Schools (DCPS). The district has faced constant leadership changes, has limited resources, and a bloated bureaucracy that appeared dysfunctional in the past. It has many diverse stakeholders – including the U.S. Congress. While most suburban school systems are managed by a superintendent and school board, D.C. has direct mayoral control. The verdict is still out as to whether mayoral control will help, but systems already under this sort of control such as the Chancellor's District in New York City are showing some encouraging results.³⁴

Parents of children in urban districts often face social and economic challenges, including parents' own low education rates, language barriers, and low income. While the education level of D.C.'s adults is comparable to that of suburban counterparts, the city has a lower median household income, higher unemployment, and much greater poverty. The DCPS serves a

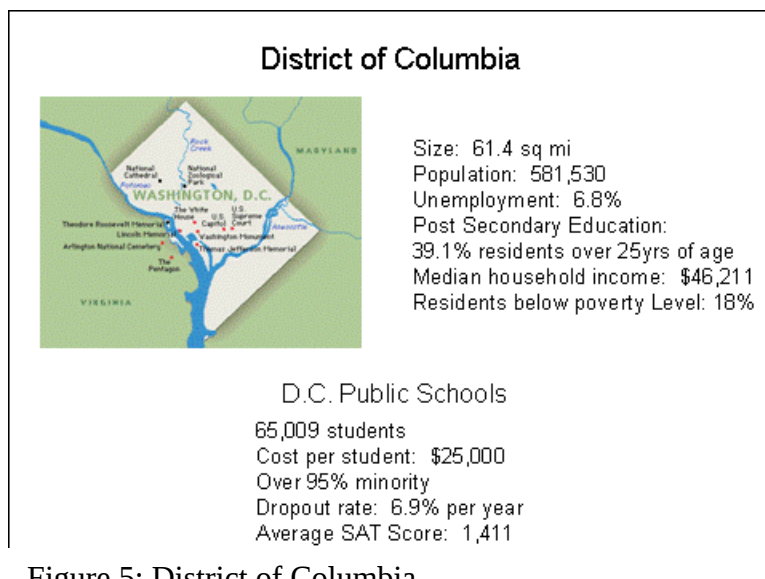


Figure 5: District of Columbia

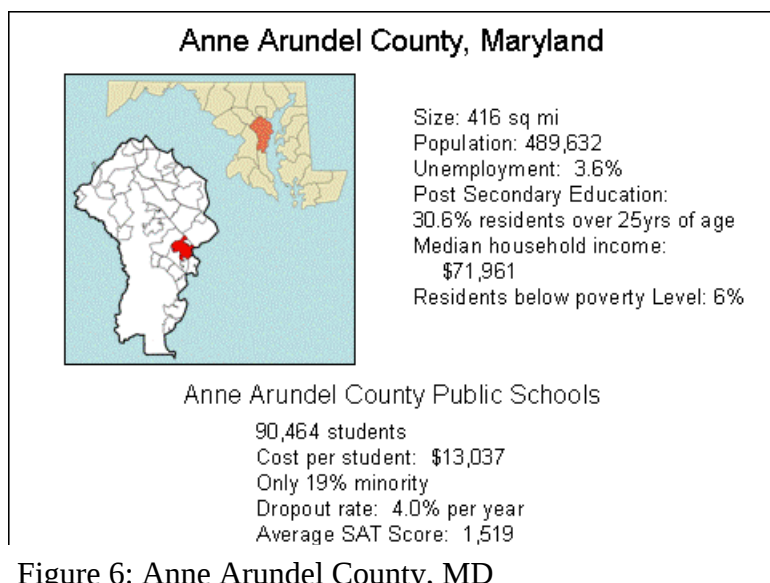


Figure 6: Anne Arundel County, MD

significantly lower than in D.C. They have majority white populations and the median household incomes are well above the national average. Though these districts on average spend half of what the DCPS does per pupil, their academic performance is higher with lower dropout rates.

When discussing urban schools, we might remember Victor Hugo's observation that "He who opens a school, closes a prison;" we can invest in education early or pay later. Incarceration rates are rising for the most disadvantaged portion of the U.S. population, many of whom are products of an urban school system. Research shows a direct correlation between high school dropout and incarceration rates. For example, 82% of the prisoners in the U.S. are high school dropouts, each of whom costs taxpayers approximately \$34,000 a year to incarcerate.³⁵ Since minority youth have a dropout rate that is 62% higher than that of white students, limited educational opportunities for our minority kids does not benefit anyone.³⁶

Home Schooling. Home schooling is a difficult topic to evaluate because there are competing

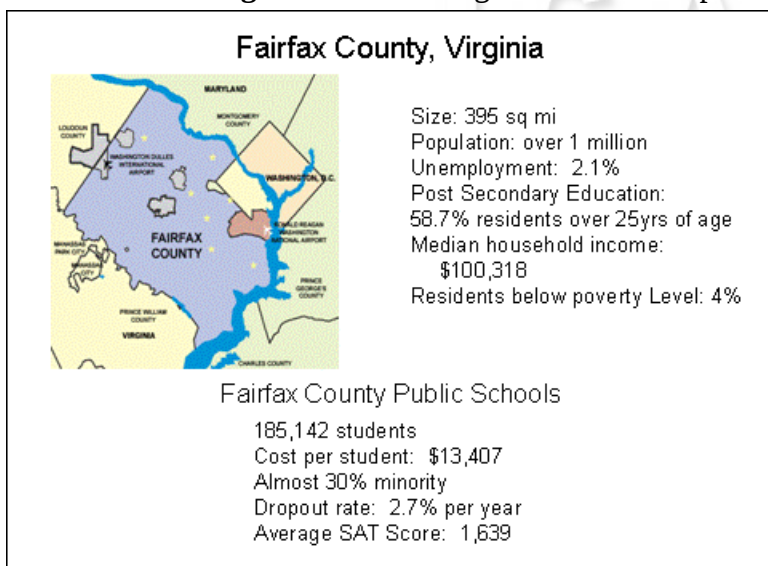


Figure 7 Fairfax County, VA

predominantly minority population and has almost twice as many dropouts as suburban systems. DCPS also spends almost twice as much per student as its suburban neighbors, but its students average 100-200 points lower on the Scholastic Aptitude Test (SAT).

While life in neighboring suburban Maryland and Virginia also has its challenges, students enrolled in these systems have an advantage based simply on location. In both Anne Arundel County, Maryland and Fairfax County, Virginia, unemployment and poverty levels are

and contradictory factors at play. Supporters and opponents tend to be passionate –there are few tepid opinions when it comes to this subject. Many supporters see home schooling as the cure for all educational ills, while opponents see it as isolating children and subjecting them to narrow and/or radical religious instruction. There are many groups grappling with the issues of oversight, and parental authority.

Home schooling offers a way to opt out of the public education system. The 2003 Department of

Education Study *Homeschooling in the United States: 2003 Statistical Analysis Report* indicates that just over 85% of parents chose this option because of concerns about the environment (including safety, drugs and negative peer pressure) in traditional schools; 72% indicated a desire to provide religious or moral instruction; and 68% expressed dissatisfaction with academic instruction offered at public, private or parochial institutions.³⁷

Home schooling provides reduced student to teacher ratios, instruction tailored to the individual student, closer parental oversight and arguably closer bonds between parent and child – all are intangibles that may combine to encourage success. On the other hand, public and private schools provide economies of scales vis-à-vis facilities, funding, personnel and access; interaction with students of different socio-economic backgrounds; and an appreciation for cultural assimilation and differences. All are needed for a student to thrive in America and more broadly in the global economy. Increasing numbers of families that home school their children are forming cooperative learning communities of interest to provide the benefits of a collective learning environment. Parents with professional degrees provide instruction to a group of home school children while relying on other parents to instruct in their specialties.

Home school extracurricular activities augment home-based education and provide broader exposure to home school students than was seen when the movement began. This is especially needed in order to diversify the home school environment, as its population tends to be homogenous: white, two parent households (with only one working parent) and families with three or more children.³⁸

Much of the debate may be infused with more emotion than reason, making it a challenge to develop an informed opinion.

Vocational Education. In the 20th century, the transition of the U.S. economy from agriculture to manufacturing fueled discussion about how to prepare the future work force. President Theodore Roosevelt urged major school reform that would provide industrial education in urban centers and agricultural education in rural areas”.³⁹ Advocates see vocational education as a way to lower youth unemployment and stem urban decay. Opponents see it limiting future earnings potential for the disadvantaged by replacing academics with less rigorous technical skills training.

Today up to 15% of young people (between three and five million) leave the classroom annually with no firm commitment to the labor market. About 40% of out-of-school, out-of-work youth live in the nation’s 50 most populous metropolitan areas. Urban black youths represent 27% of unemployed non-student young people.⁴⁰ These numbers have encouraged development of vocational and technical training programs like the federally funded Job Corps. With 122 sites nation-wide, it focuses on 16-24 year olds. The Job Corps is a non-compulsory, non-traditional educational program that develops technical skills, and encourages learning English as well as attainment of a high school diploma or General Education Development (GED).

Even in suburban high schools, many graduates do not wish to pursue 4-year bachelor’s degrees after they graduate, but still seek post-secondary education. Post-secondary vocational schools and community colleges have filled this niche. Many communities also support public high schools that marry vocational education with academics. For example, Minuteman High School in Lexington, Massachusetts, which the IS visited, combines the academics to prepare students for college with challenging vocational programs such as biotech’

Teacher Recruitment and Retention. The demand for quality teachers has increased due to rising enrollment, the push for smaller class sizes, and teacher retirements.⁴¹ The National Center for Education Statistics (NCES) predicts the U.S. will need to add 2.8 million teachers through 2016.⁴² According to Richard Ingersoll of the University of Pennsylvania, who analyzed the NCES Schools and Staffing Survey (SASS), “the data indicate that school staffing problems are due primarily to a ‘revolving door’ where large numbers of qualified teachers depart from their jobs long before retirement.”⁴³ Approximately 50 percent of teachers leave the profession before their fifth year, and every year close to 33 percent of teachers are in transition.⁴⁴ Ingersoll states that much of the turnover is due to job dissatisfaction or pursuit of other employment.⁴⁵ The highest turnover rates are in hard-to-staff schools. The three most common reasons cited for leaving are better teaching positions, dissatisfaction with administrative support, or displeasure with working conditions.⁴⁶

This creates teacher shortages and a huge drain on the resources of school districts. The National Commission on Teaching and America’s Future quantified the cost of teacher turnover in five school districts. In Jemez Valley, NM, the cost to the district was \$4,366 per teacher, while it was \$15,325 in Milwaukee and \$17,872 in Chicago. The annual cost of teacher turnover in the Chicago Public School System is over \$86 million.⁴⁷ The cost of teacher turnover nationwide may be as high as \$7.34 billion.⁴⁸ Education faces greater competition from occupations that offer higher salaries than the average starting salaries for teachers.

Several districts have implemented merit pay or pay-for-performance plans. According to the National Education Association, the national average starting salary for teachers is \$30,377.⁴⁹ In an attempt to attract high quality teachers, a New York City charter school scheduled to open in 2009 will pay teachers \$125,000 and a potential bonus based on school performance. Teacher Advancement Program (TAP) is another idea. Created in 1999 and currently in 180 schools in 14 states and Washington, D.C., TAP is more than a merit pay program and offers opportunities for professional advancement in three ways: the opportunity to teach while mentoring other teachers, the chance to become a “teacher of teachers,” or moving into administration. The rigorous approach toward collaboration and building and refining skills at the moment seems to be creating the best results.⁵⁰

Efforts to reduce teacher attrition are forcing school districts to become innovative, though as with much in education, it is difficult to draw any definitive or credible conclusions vis-à-vis which policies should or could be replicated on a wide scale.

Childhood Obesity Formula

Kids are eating more....

- ◆ Between 1989 and 1996, children’s calorie consumption increased by 80 to 230 extra calories a day – 40% from in soft drinks.
- ◆ 32% of elementary schools, 71% of middle schools and 89% of high schools allow students to purchase food and beverage items a la carte (i.e. from vending machines).
- ◆ A la carte foods provide less than 5% of the Reference Daily Intake (RDI) for eight specified nutrients per serving.

Moving less....

- ◆ Physical Education is not included among the core NCLB requirements.
- ◆ Only 7-8% of schools offer the recommended 150 minutes (elementary) and 220 minutes (secondary) of Physical Education per week.

And paying the price....

- ◆ More than 22% of elementary school children are overweight or at the risk of becoming overweight.
- ◆ Over 15% of children ages 6-19 are overweight and this group has seen a four-fold rise in Type 2 diabetes over the past 20 years.
- ◆ More than one in three children born after the 2000 will eventually suffer from diabetes.
- ◆ Children are also suffering from increased rates of hypertension, sleep apnea, asthma, orthopedic complications and nonalcoholic fatty liver disease.

Health Issues. Has No Child Left Behind (NCLB) put so much emphasis on increasing higher standardized test results at the expense of physical education (PE) and intramural sports?⁵¹ Perhaps not, but American school children continue to face serious health issues, including obesity partially due to lack of physical activity.

Figure 8: Education and Health

The federal government has promoted nutrition in schools since 1946 via the National School Lunch Program (NSLP) and the School Breakfast Program (SBP).⁵² To receive the US Department of Agriculture's (USDA) subsidy, participating schools must supply children with one third of the Recommended Dietary Allowances (RDA) of specified nutrients with at least one fourth of these nutrients coming from breakfasts.⁵³ The federal government does *not* (and likely *cannot* because of the decentralized nature of our educational system) regulate competing foods sold in U.S. public school vending machines, canteens, and snack bars. Typically, these consist of high fat or sugary foods that provide less than 5% of the Reference Daily Intake (RDI) for eight specified nutrients per serving and directly compete against healthier foods.⁵⁴

Many schools have established agreements with soft drink and vending machine companies to raise discretionary funds needed to continue non-core programs in sports and other areas. Though such activities may be critical to providing a well-rounded educational environment, they are usually the first to be cut when budgets are under pressure.

Childhood obesity is an epidemic that can only be addressed if everyone from the individual student, parents, schools, government at all levels coordinate their efforts and make addressing this problem a priority. Addressing it successfully might require balancing needs to achieve academic benchmarks with the possibly equally important objective of giving all students a well rounded education that includes physical activity (sports) along with exposure to culture, the arts, and other important areas.

Adult Education. In today's global marketplace, college degrees replace high school diplomas as passports to middle-class status and income.⁵⁵ Many adults who 10 or 20 years ago entered the workforce immediately after high school are now attending college. According to the U.S. Department of Education, 73% of all undergraduates do not attend college full-time immediately after high school graduation.⁵⁶ These non-traditional students are not concerned about attending the most prestigious colleges. By expanding higher education options, colleges and universities can facilitate different paths to a degree so that non-traditional students can reach their academic goals with minimal disruption to their lives. Three options – university and community college parallel programs, fully accredited alternative degree programs, and credit for prior learning and work experiences – have become popular. Each allows adults to pursue a degree according to individual schedules, and often in less time and ultimately at a lower cost than a traditional four year full-time undergraduate program

University and Community College Parallel Programs. Community colleges offer non-traditional students an excellent entry point into higher education with convenient locations, open admissions, comprehensive course offerings, and relatively low tuition rates. Besides awarding associate's degrees, community colleges can provide a bridge to a bachelor's degree. However, transferring credits between two-year and four-year institutions is not automatic. Most programs allow students to transfer to the four-year institution as juniors after receiving their Associate's degree from the community college.

Fully Accredited Distance Learning Degree Programs. Whether because of capacity or limited class schedules, many students supplement their traditional coursework with alternative means of instruction. Of all the alternative degree programs, distance learning is by far the most popular. Between 1998 and 2002, enrollment in online college courses increased by 36 percent.⁵⁷ A number of for-profit and traditional universities are allowing students to combine on-line courses with classroom instruction.

The University of Phoenix, the largest for-profit university in North America, is an example of an institution whose primary mission is adult education.⁵⁸ Like community colleges, for-profit institutions are responsive to the changing educational needs in their regions and they often have shorter new program development cycles than traditional universities.⁵⁹

Credit for Prior Learning and Work Experiences. Many adults enter higher education with a wealth of experience gained outside the classroom and they want the opportunity to demonstrate this knowledge and to receive college credit for what their experience. Two options – College Level Examination Program (CLEP) and Portfolio Evaluations – are gaining popularity and acceptance. The College Level Examination Program (CLEP) offers an opportunity to obtain recognition for college-level achievement outside of a university environment. Portfolio Evaluations are more subjective but allow for consideration of more types of experience.

Education and National Security

Much has changed in the United States since the Civil War and even WWII. One of the most striking differences may be the willingness of graduates of the country's most prestigious universities to participate in our military or the uncompromising conviction that forgotten or mistreated Americans can muster in the service of their nation. The eagerness of Harvard's best and brightest to join the military and to participate in the Civil War as well as the noble sacrifice of detained Japanese-Americans during WWII offers a striking contrast with what we see now (see Figure 9⁶⁰). Nevertheless, few would argue that the United States is less secure today. As with much that involves education, the relationship with national security can be subtle and at times almost intangible but nevertheless key to how the nation is able to address threats, whether military, economic, or social.

Reports of dismal test scores, employers' inability to find qualified personnel for jobs that

AMERICAN CIVIL WAR & MASSACHUSETTS 2nd and 22nd HARVARD BRAHMS

In the 1970's General John A. Wickam of the U.S. Army, commander of the famed 101st Airborne Division, visited the Civil War battlefield of Antietam. There he gazed at Bloody Lane, where Union soldiers had attacked repeatedly before finally breaking through after suffering casualties greater than 50 percent in some regiments. "You couldn't get American soldiers today to make an attack like that," he said.

→ Why did Civil War soldiers -- Officers and privates alike, nearly all of whom enlisted before the Union draft went into effect in mid-1863 -- do what they did?

(1) Factors that distinguished the best Civil War regiments from the mediocre ones were the quality and exemplary courage of their officers -- leadership by officers who could remain cool under fire, impose discipline without provoking corrosive resentment, command the confidence of their men, and not ask them to do anything or face any danger they were unwilling to do or face themselves.

(2) Motives included fervent patriotism, ideological convictions about the righteousness of their cause, the cohesion of community-based regimental companies, Victorian cultural values of duty, honor, courage, and manhood, and religious beliefs that enabled many soldiers to face death with a composure that seems extraordinary today.

(3) Many were descendants of the Revolutionary generation that had won independence from Britain and founded the nation now threatened with destruction... "So the desire of these young men to preserve the Union, to defend the Constitution and its principles, was not an abstract or philosophical attitude but one imbued with almost hereditary, even proprietary feelings."... Strong convictions of duty and honor grew from this heritage -- the duty to serve, and the dishonor of failing to serve.

WWII & 442nd REGIMENTAL COMBAT TEAM, motto: "go for broke." The soldiers of the 442nd needed to win big. They were Nisei - American-born sons of Japanese immigrants. They fought two wars: the Germans in Europe and the prejudice in America. More than 110,000 persons of Japanese ancestry (including 60 percent who were American citizens) were forcibly "relocated" from their homes, businesses and farms in the western states. They battled against the armies of the Third Reich from the beaches of Salerno to the deep, shell-scarred forests of the Vosges in Eastern France and the treeless barren crags of the *Alpes Maritimes* of Southern France. The 442nd Regimental Combat Team was the most decorated unit for its size and length of service, in the entire history of the U.S. Military. The 4,000 men who initially came in April 1943 had to be replaced nearly 3.5 times. In total, about 14,000 men served, ultimately earning 9,486 Purple Hearts, 21 Medals of Honor and an unprecedented eight Presidential Unit Citations.

The Japanese-American Creed (extracts)

I am proud that I am an American citizen of Japanese ancestry, for my very background makes me appreciate more fully the wonderful advantages of this nation. I believe in her institutions, ideals, and traditions; I glory in her heritage; I boast of her history; I trust in her future. She has granted me liberties and opportunities such as no individual enjoys in this world today. She has given me an education befitting kings....

Figure 9: Education and Society

require even minimal literacy and numeracy, complaints about shortages of engineers, and allegations that the military has to lower qualifications to fill manpower needs have all been cited as signs that our educational problems threaten our national security. The United States periodically experiences anxiety that its educational system is lagging and therefore is endangering national security. This happened in the 1950s with the launching of Sputnik, in the eighties with warnings from the report on *A Nation at Risk* and competition from Asia and more recently with the push for adoption of accountability via the testing and state standards that eventually resulted in *No Child Left Behind*. Today much hullabaloo is heard over the numbers of engineering graduates in India and China about whom we know little. At the height of the Cold War, the Soviet Union also produced more engineers than the United States, but the winner turned out to be the *Nation at Risk*.

ICAF's 2008 Education IS heard a number of defense industry representatives decry the shortage of engineers in the United States. At the same time, an experienced educator observed that raising the pay and prestige of engineers would address the problem; Americans who graduate with engineering degrees often choose to go into marketing, sales, management or other areas because of the greater financial rewards and prestige. Indeed, this assertion was borne out by the two IS members who had engineering degrees, both chose not to work as engineers after graduation. Defense contractors also cite the need for American citizenship and security clearances for engineers who work on classified projects. They therefore cannot hire "lots of smart" non-Americans (see Figure 10⁶¹).



"I don't have to be smart, because someday I'll just hire lots of smart people to work for me."

Figure 10: Hiring vs. Being Smart

answer.⁶² The nation's education system is defined by the same society that defines the character of its government. In America this flows from the natural tensions between Federal and States' rights as well as the inherent belief that an investment in human capital is a self-serving investment in society itself. When it comes to placing education in the context of national security, education is a factor, but its causality vis-à-vis national security is disputed. There is no consistent data.⁶³

In addition to looking at formal education – whether elementary, secondary or higher – and its connection to national security, we might also look at the possibilities for giving all young Americans “an instructive or enlightening experience” via some type of national service. Such service might encourage the sort of commitment to national security that we saw during the Civil War from our Harvard graduates.

To be clear, as with almost everything in education, there is much diametrically opposed analysis about connections between education and national security. While there is clear evidence that cognitive skills of a population are related to economic growth and individual earnings, there is scant evidence that schools are the

Some International Perspectives

Pervasive lack of knowledge of foreign cultures and languages threatens the security of the US and our ability to compete in the global marketplace. Our nation's future success depends on our abilities to understand and adapt to different cultures and ways of thinking. Though globalization is a fact of life, our schools have been slow in adopting curricula to effectively teach cultural literacy and foreign languages.

In the economic realm, globalization is changing the demand for the US workforce. Today a fifth of all US manufacturing jobs are tied to exports and in a 2004 survey 58% of our growth in business earnings came from overseas.^{64,65} Foreign consumers are representing an increasing opportunity for America's economy. In 2007, Americans produced \$13.8 trillion worth of goods and services. Of this total, \$1.64 trillion (11.7%) went overseas. Similarly, 40% of the companies surveyed in 2002 reported that their international sales continue to grow faster than domestic sales.⁶⁶

These global economic challenges and opportunities are contributing to changes in the business workforce. A Rand study, in the mid-1990s, reported the concerns of 16 global corporations over U.S. universities' ability to produce graduates with international skills.⁶⁷ In another survey, 80% of business leaders expected their overall business would have increased if they had more internationally competent employees.⁶⁸ The Committee for Economic Development also reported that US companies have lost over \$2 billion dollars in business revenue due to cultural misunderstandings and over 30% of the firms stated that a monolingual workforce costs business opportunities overseas. This global environment clearly indicates that US employees need foreign language skills, cultural understanding, and international knowledge to compete internationally.

Joseph Nye, in his book *Understanding International Conflicts*, discusses the critical role international education played in winning the Cold War and states that the US is now squandering the competitive advantage it enjoyed in the past because of our current unilateral approach toward the Global War on Terror (GWOT). However, the GWOT also is a prime motivator for raising critical language ability in the US. The GWOT demonstrated that we are not prepared to fully engage with foreign governments and people in critical regions. We also are not prepared to promote understanding and to convey respect for other cultures at the tactical and strategic levels. For example, as America initiated the GWOT, we quickly realized that "we simply don't have enough competent speakers of Arabic with credible policy context and an ability to connect with the intended audience so they will at least listen to what we are trying to say."⁶⁹ The 9/11 Commission Report also found that the CIA and FBI did not have needed language skills and lacked cultural awareness to fight the GWOT with maximum effectiveness.⁷⁰

As the political landscape changes, the size of the audience requiring America's public diplomacy expands. An American population competent in other languages could provide key resources to bridge the gap between cultures help our security.

Federal Programs. The government in 2006 recognized the need for language learning by increasing funding for both Title VI of the Higher Education Act and the Fulbright-Hays International Education Act and sponsored the National Security Language Initiative (NSLI). The NSLI has three goals: (1) increase the number of Americans mastering critical language needs such as Arabic, Chinese, Russian, Hindi, and Farsi, (2) increase the number of advanced-level speakers with an emphasis on critical languages, and (3) increase the number of critical

language teachers. NSLI is being implemented by the Department of Education, Office of the Director of National Intelligence, Department of State, and the Department of Defense. Its 2008 budget is \$115 million.⁷¹ NSLI provides grants to localities and states to establish, improve, or expand innovative and critical foreign language programs for K-12 to include the study abroad. These programs are limited to critical languages – and a broader strategy is needed.

Current US Status. Today 4.68 % of the world's population speaks English as a primary language.⁷² In the United States 80% of the population speaks only English with 19% speaking another language of which 12% speak Spanish.⁷³ Approximately 9% of English speakers in the U.S. speak at least one other language fluently.⁷⁴ In the European Union (EU) 53% of the population has fluency in at least one other language than their own.

State and local governments have most responsibility to develop foreign language capability, and seven million students in American public schools in grades 7-12 study foreign languages with these breakdowns: Spanish 68.7%, French 18.3%, and German 4.8%. These are not the languages NSLI considers critical.⁷⁵ Only 31% of public and private elementary schools teach any foreign language at all and even here, 79% of the instruction is limited to “exposure” rather than proficiency. In our high schools 44% of students are enrolled in a language class of which 69% are enrolled in Spanish.⁷⁶ Two thirds of school districts report that resources for language education are non-existent or inadequate, and school principals in some districts predict decreases in language education due to No Child Left Behind (NCLB) mandates.⁷⁷ Just 1% of American high school students study Arabic, Chinese, Farsi, Japanese, Korean, Russian, or Urdu.⁷⁸

Over 200 million Chinese students reportedly study English, a compulsory subject for all Chinese primary school students.⁷⁹ The EU Language Learning and Linguistic Diversity Action Plan calls for citizens to speak two languages in addition to their native tongue with the goal of second language acquisition at the earliest possible age.^{80,81}

Conclusion: A few modest suggestions

Former House Speaker Tip O’Neill noted that “all politics is local.” This has been true of education and related policies in the United States. Education policy in the United States is a complex mix of inputs from different governmental levels. Comprehensive nationwide reform is extremely difficult to formulate much less implement. Local and state governments jealously guard their prerogatives; we expect them to continue to do so. With our ***education policy contaminated by discord, spin and pressure from special interests at all levels, the public rarely gets non-ideological research or discussion; almost everyone close to the subject wants to ensure their own spin on the matter is heard above the din.*** The ultimate paradox vis-à-vis education might be the contrast between our self-image as a pragmatic democratic nation with the rhetoric, spin and disingenuous discussion seen about public policy and ***especially*** education.

Fully cognizant of the complex political, economic, regional and other factors that make reaching consensus on and formulation of education policy especially difficult in the United States, the ICAF 2008 Education Industry Study reached some key conclusions based on what we saw, heard and studied in the United States, England and Germany. Above all we need faithful non-partisan public discussion with ***intellectual integrity replacing spin.*** We offer two broad requirements to improve the discussion and open possibilities for credible reform:

- **Clear, simple and credible national standards:** *No Child Left Behind* permitted states to continue to set their own standards. Standards between states differ making national comparisons of student performance impossible. Standardized national testing of the gateway skills of reading and mathematics at the third, eighth and twelfth grade levels would be very useful for everyone involved: students, parents, teachers, administrators and policy makers across all levels of government. Based on our observation of the complexities involved in formulating educational policy and ***absent a forum for reasoned non-partisan discussion of education***, we would not expect such a proposal to be adopted.
- **Reaching broad national consensus and depoliticizing policy making:** Contentious questions involving education in the United States often involve cultural, religious and social issues (e.g., school prayer, sex education, school busing, teaching of evolution, etc.) that have little or no bearing on *genuine* educational issues such as student performance, teacher accountability and overall readiness of our population to ***be*** educated and ***prepared*** to succeed in the global economy. Different interests (politicians and special interest groups at all levels, labor unions, ideological think tanks, etc.) try to push and pull education in all directions.

These observations are based on our assessment that education in the United States will continue to be a mixture of top notch excellence alongside serious failure. It also is based on the idea that ***the failing side of American education cannot be addressed systematically and credibly absent comprehensive policies that attempt to ameliorate the social, cultural and economic issues that often are associated with poor educational performance: urban and rural poverty, family dysfunction, homelessness, inadequate or missing medical care, substance abuse and poor nutrition (including the very serious issue of childhood obesity).***

Based on what we have seen, we offer some recommendations that may be doable.

- **Strengthen and depoliticize the tenets of NCLB.** The executive branch must (1) champion a strategic communications plan addressing the educational needs of the nation and (2) appoint a non-partisan board to establish consistent nationwide standards (and evaluation criteria) in core subjects such as reading and math. These standards must take into consideration the demographic distribution of students and their varying capabilities. Similarly, this board must develop a fair “growth model” suitable for inclusion into the NCLB reauthorization.
- **Introduce and encourage foreign culture immersion and language training for the children of USG personnel who are stationed abroad.** Such kids are losing a unique opportunity to significantly enhance career prospects in a globalized economy as well as a chance to strengthen our national security. At the moment, we are not seizing this opportunity.
- **Ensure that emphasis on testing of basic skills in English, math, and science does not come at the expense of instruction in art and music.** Both are integral to the curriculums in England and Germany where educators recognize the importance of these subjects to the development of children and young adults. Lack of instruction in these subjects in the United States would put American kids at a disadvantage.

Our observations in the United States and abroad point to the idea that successful policies very much depend on the right ***mix*** of factors given local political, cultural and economic contexts. Thus in England we saw a centralized educational system with a strict national curriculum that also gave individual schools and their administrators tremendous autonomy. In Germany we were briefed on a federal system that permitted individual states to set policy and run schools under a broader national umbrella. Both approaches have their defenders and critics, and just as in the United States, adoption of policies such as extensive use of testing (as was happening in England during our visit) generate serious questions about the effectiveness of such policies. On such ***big*** issues as national vs. local control of curriculums and policy, teacher training and retention, or the effectiveness of *No Child Left Behind* we would only point out that there are no clear answers. All ultimately depends on context, culture, politics, and many intangible factors that may make one policy effective in one place and a failure in another. On the one hand assessing what works may require trial and error, but on the other as parents and a

school administrator in England told us, “we do not want to make children into guinea pigs by conducting experiments on them.” But the bottom line is that credible and intellectually honest discussion and policymaking must occur. ***We are only harming ourselves if we continue to put up with the special interest spin, intellectual fraud, and other nonsense*** that ICAF’s 2008 Education Industry saw (along with the many good things both here and abroad).

Where excellence in education happens, all the factors above either exist or are irrelevant. Where failure occurs, the roadmap charting the upward trend toward demonstrable improvement is well creased, smudged, and stained. For those requiring purposeful answers based on the conviction of faith and reasoned rhetoric, the following solutions are offered:

ISSUE

- Teacher compensation / pay for performance
- Classroom size / teacher-student ratio
- State testing standards
- National standards
- Obesity
- Voucher
- K-12 Performance
- Measures / metrics
- Standards
- Students
- Schools
- Classroom
- Education
- Teacher quality
- Teacher certification
- Engineers
- H1B visas
- Cultural literacy
- National security
- Discipline
- Magnet schools
- Charter schools
- Vocational schools
- Curriculum development
- Home schooling
- University tuition / costs
- Federal vs. States education equities
- Competitive environment for schools
- Graduation vs. Drop-out rates
- Outcomes vs. outputs

WHERE SOLUTION ***MIGHT*** START

local union / school board
 local union / school board
 local school board / governor
 Congress
 Parent(s) / caregiver
 local / state / federal gov’t
 Measures / metrics
 Standards
 Testing, math & reading
 Parent(s) / caregiver
 Principal(s)
 Teacher(s)
 Parents & Teachers
 Union/Local Boards
 State and National
 Industry compensation
 Enforce balance
 Overseas education
 National service
 Principal(s) & Teacher(s)
 Local Boards (to create more)
 Ditto
 Ditto
 Ditto (reading math/national)
 Stay out of the way
 2nd job, loans & grants; High SATs
 Constitutional convention
 Local, state, federal
 Parents!
 Commitment, time & patience

Endnotes

¹ The American Heritage Dictionary of the English Language – Fourth Edition, Houghton Mifflin Company (2000): 569.

² Ibid., 895.

³ *The New Yorker*, 1958 – modified

⁴ Gordon C. Winston. “Subsidies, Hierarchy and Peers: The Awkward Economics of Higher Education.” *Journal of Economic Perspectives*. 13, no. 1 (Winter 1999): 13-36.

⁵ Fiske, Edward B. “A Nation at Loss”, *New York Times*. April 25, 2008.

⁶ Ibid.

⁷ Source: U.S. Department of Education, National Center for Educational Statistics. (2008). *Digest of Educational Statistics, 2007* (NCES 2008-022). Table 25.

⁸ Jack E. Bowsher, “Fix Schools First: Blueprint for Achieving Learning Standards.” (Maryland: Aspen Press, 2001): 19.

⁹ U.S. Census Bureau. <http://www.census.gov>.

¹⁰ Ron Stodghill. “For Schools, Lottery Payoffs Fall Short of Promises.” *New York Times*. (2007) http://www.nytimes.com/2007/10/07/business/07lotto.html?_r=1&scp=2&sq=Lottery+education+Georgia&st=nyt&oref=slogin

¹¹ U.S. Department of Education, National Center for Educational Statistics. (2008). *Digest of Educational Statistics, 2007* (NCES 2008-022). Table 5.

¹² U.S. Department of Education, National Center for Educational Statistics. (2008). *Digest of Educational Statistics, 2007* (NCES 2008-022). Table 2.

¹³ Current per pupil expenditures in constant 2006-2007 dollars: 2004-2005 \$9,266/pupil versus \$4,328 in 1970-71. U.S. Department of Education, National Center for Educational Statistics. (2008). *Digest of Educational Statistics, 2007* (NCES 2008-022).

¹⁴ U.S. Department of Education. National Center for Education Statistics. *National Assessment of Education Progress (NAEP) 2004 Trends in Academic Progress: Three Decades of Student Performance in Reading and Mathematics*. 1971- 2004.

¹⁵ Sources: U.S. Department of Education. National Center for Education Statistics. *Highlights from PISA 2006: Performance of U.S. 15-Year-Old Students in Science and Mathematics Literacy in an International Context*. December 2007. <http://nces.ed.gov/pubs2008/2008016.pdf>

and National Center for Education Statistics. *Contexts of Elementary and Secondary Education. 2003 International Comparisons of Education of Expenditures for Education: Table 41-1.* <http://nces.ed.gov/programs/coe/2007/section4/indicator41.asp#info>

¹⁶ See, for example, U.S. Bureau of Labor Statistics, <http://data.bls.gov>

¹⁷ Winston. *Subsidies, Hierarchy and Peers: The Awkward Economics of Higher Education*: 15.

¹⁸ Ibid., 14.

¹⁹ Ibid., 15.

²⁰ Winston. *Grow the College? Why Bigger May Be Far From Better*: 2.

²¹ “Under No Child Left Behind, each state has developed and implemented measurement for determining whether its schools and local educational agencies (LEAs) are making adequate yearly progress (AYP). AYP is an individual state’s measure of progress toward the goal of 100 percent of students achieving to state academic standards in at least reading/language arts and math. It set the minimum level of proficiency that the state, its school districts, and schools must achieve each year on annual tests and related academic indicators. Parents whose children are attending Title I (low-income) schools that do not make AYP over a period of years are given options to transfer their child to another school or obtain free tutoring (supplemental educational services).” Source: U.S. Department of Education website. <http://answers.ed.gov/>

²² In 2002, Edison was removed from the NASDAQ because its share value fell below one dollar - the minimum price required to trade on the exchange.

²³ As the largest EMO/charter school service currently operating, Edison’s experience allows us to make certain deductions (results are based on an analysis using Porter’s Five Forces Model). Source: Grant, Robert M. *Contemporary Strategy Analysis*. Blackwell Publishing. Malden, Massachusetts, 2008.

- The primary business inputs to EMOs are labor-related. At Edison, 84% of Cost-of-Goods-Sold (COGS) is associated with manpower (teachers, administrators, etc.).
- There is little differentiation of relative prices and performance between charters and likely substitutes.
- EMOs and charters rely on economies of scale, yet as seen with Edison, the industry does not appear to be returning excessive earnings compared to its cost of capital. Edison has sustained net operating losses every year. Therefore, new firms are not swarming into the K-12 market.

²⁴ In addition to the threats identified in Figure 3, new charter schools have difficulty obtaining start-up capital, primarily needed to finance facilities and manpower. Since new charter schools are unable to receive public funding until they begin operations, they incur considerable expenses prior to starting up. Recognizing this, the federal Public Charter Schools Program (PCSP) provides grants to charters for initial planning and

implementation costs. Since 1994, PCSP has awarded about \$1 billion in grants to assist charter schools with start-up costs (GAO, *Charter Schools: New Charter Schools Across the Country and in the District of Columbia Face Similar Start-Up Challenges*; GAO-03-899, 1). Almost two-thirds of charter schools have received federal pre-planning grants. States have followed suit – in 2003, nine states and DC made start-up grants available to new charter schools (Ibid., 14). Having invested in these commercial ventures, governments are concerned about their solvency. Charter schools, in addition to the obvious financial burdens, fear lengthy legal encumbrances likely to arise if they fail.

²⁵ GAO, *Charter Schools: New Charter Schools Across the Country and in the District of Columbia Face Similar Start-Up Challenges*; GAO-03-899: 1.

²⁶ Per Department of Education website: NCLB Overview – Four Pillars of NCLB. <http://www.ed.gov/nclb/overview/intro/4pillars.html>

²⁷ Paul E. Peterson and Martin R. West. *No Child Left Behind? The Politics and Practice of School Accountability*. (Washington D.C., The Brookings Institution, 2003): 7. Peterson provides examples of the law's chief limitations: "Congress left to the states the precise standards to be set, the specific design of their testing instruments, and the administration of their accountability systems. Standards actually have been lowered in some states. If a school fails, parents have the right to send their children only to those non-failing public schools located within the same school district. Although annual progress toward full proficiency is required, schools have twelve years to reach this target, and the specific amount of progress required each year is not stated. The toughest requirements in the legislation do not take effect for several years, opening up the possibility that a subsequent Congress will revise them before they are enforced. For example, a school must fail to make progress for each of the five years before the restructuring requirement comes into play. States need not establish high school graduation requirements – or standards that govern promotion from one grade to the next."

²⁸ Source: U.S. Department of Education. The cumulative funding gap between what Congress authorized versus what was actually appropriated through 2008 is \$71 billion. Differences by year are as follows: 2002 - \$4.2 million; 2003 - \$5.4 million; 2004 - \$7.6 million; 2005 - \$9.8 million; 2006 - \$13.4 million; 2007 - \$15.8 million; 2008 - \$14.8 million. NCLB funding amounts represent all federal education programs authorized or otherwise amended by the No Child Left Behind Act of 2001 (P.L. 107-110).

²⁹ Source: GovTrack.us: Tracking the 110th United States Congress. <http://www.govtrack.us/congress/billsearch.xpd>

³⁰ Clive Belfield. "Does It Pay to Invest in Preschool for All? Analyzing the Return-on-Investment in Three States" *National Institute for Early Education Research (NIEER)*. (January 2006). <http://nieer.org/resources/research/doesitpay.pdf>

-
- ³¹ Barnett, W. Steven, Ph.D. "Economics of Early Education, Benefits and Costs of Quality Early Education for All." Presentation to the Pre-Kindergarten Education Study Committee. Virginia General Assembly. October 27, 2006.
- ³² *The New Yorker*, May 24, 2004
- ³³ Jason Snipes. "Foundation for Success: Case Studies of How Urban School Systems Improve Student Achievement-An Abstract". DRC for the Council of the Great City Schools. (September 2002): 1.
- ³⁴ Ibid, 31.
- ³⁵ U.S. Department of Education, National Center for Education Statistics (NCES), Washington D.C., *Dropout Rates in the United States: 1998*. (<http://www.ed.gov/stats.htm>).
- ³⁶ Ibid
- ³⁷ Deborah A. Cafarelli. Industrial College of the Armed Forces. *Homeschooling in the U.S.*, p. 6.
- ³⁸ National Center for Educational Statistics, "Homeschooling in the United States 2003: Statistical Analysis Report," p. 4
- ³⁹ Tanner, D. and Tanner, L., *Curriculum Development: Theory into Practice*, New York: MacMillan, 1980.
- ⁴⁰ Levine, Linda. *Youth: From Classroom to Workplace*. Congressional Research Service. April 2005.
- ⁴¹ Richard J. Murnane and Jennifer L. Steele, "What is the Problem? The Challenge of Providing Effective Teachers for All Children," *The Future of Children*, 17.1 (2007): 15, http://muse.ibu.edu/journals/future_of_children/y017/12_lmurnane.html.
- ⁴² "Digest of Education Statistics: 2007," National Center for Education Statistics (March 2008), <http://www.nces.ed.gov/programs/digest/d07>.
- ⁴³ Richard Ingersoll, "Teacher Shortages and Education Inequality," National Education Association Visiting Scholar Series Research Brief, vol 1 (Spring 2005): 2, <http://connect.nea.org/edstats/ResearchPubs.html#Vsmaterials>.
- ⁴⁴ Tricia Coulter and Ashley Zaleski, "How Teacher Working Conditions are Related to Teacher Attrition and Student Learning," *The Progress of Education Reform—2007*, Education Commission of the States, 8.6 (Dec 2007): 1, <http://www.ecs.org/clearinghouse/77/05/7705.pdf>.
- ⁴⁵ Ingersoll, "Teacher Shortages and Education Inequality": 2.

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- ⁴⁶ Coulter and Zaleski, "How Teacher Working Conditions are Related to Teacher Attrition and Student Learning": 2.
- ⁴⁷ Gary Barnes, Ph.D., Edward Crowe, Ph.D., and Benjamin Schaefer, "The Cost of Teacher Turnover in Five School Districts: A Pilot Study," National Commission on Teaching and America's Future (2007): 5,
http://www.nctaf.org/resources/demonstration_projects/turnover/documents/CTTFullReportfinal.pdf.
- ⁴⁸ Gary Barnes, Ph.D., Edward Crowe, Ph.D., and Benjamin Schaefer, "The High Cost of Teacher Turnover," Policy Brief for the National Commission on Teaching and America's Future (2007): 11,
http://nctaf.org.zeus.silvertech.net/resources/research_and_reports/nctaf_research_reports/documents/CTTPolicyBrief-FINAL_000.pdf
- ⁴⁹ "Professional Pay: Myths and Fact," National Education Association,
<http://www.nea.org/pay/teachermyths.html>.
- ⁵⁰ Claudia Wallis, "How to Make Great Teachers," *TIME* (13 Feb 2008),
<http://www.time.com/time/nation/article/0,8599,1713174,00.html>
- ⁵¹ Johnson, Carol A. *Is Obesity Affecting United States (US) National Security? The School Solution to Childhood Obesity*. Industrial College of the Armed Forces. 2007.
- ⁵² Sheila Fleischhacker PhD, "Food Fight: The Battle Over Redefining Competitive Foods,"
http://eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?_nfpb=true&_&ERICExtSearch_SearchValue_0=EJ751835&ERICExtSearch_SearchType_0=no&accno=EJ751835 (accessed 4/1/2008, 2008).
- ⁵³ Ibid.
- ⁵⁴ Karen I. Rhoda, "The Role of Distance Education in Enhancing Accessibility for Adult Learners" In *Best Practices in Adult Learning*, ed. Lee Bash (Bolton, MA: Anker Publishing Company, Inc., 2005): 149.
- ⁵⁵ Clara M. Lovett, "Focusing on what Matters," *Change* 35, no. 2 (March/April 2003, 2003): 34.
- ⁵⁶ Iris H. Kelsen and Lawrence T. Lesick, "Recruiting and Admitting Adult Learners: They're Not just Older - They're Different" In *Best Practices in Adult Learning*, ed. Lee Bash (Bolton, MA: Anker Publishing Company, Inc., 2005): 49.
- ⁵⁷ Karen I. Rhoda, "The Role of Distance Education in Enhancing Accessibility for Adult Learners": 149.
- ⁵⁸ Kelsen and Lesick, *Recruiting and Admitting Adult Learners: They're Not just Older - They're Different*: 54.

⁵⁹ William H. Maehl, "Adult Degrees and the Learning Society," *New Directions for Adult and Continuing Education*, no. 103 (Fall 2004, 2004): 13.

⁶⁰ James M. McPherson. "Brahmins at War." In *This Mighty Scourge: Perspectives on the Civil War*. (New York: Oxford University Press, 2007): 145-154.

⁶¹ *The New Yorker*, January 15, 2001

⁶² Peter Robinson. "Literacy, Numeracy and Economic Performance," *New Political Economy*. Vol 3 Issue 1 (March 1998): 143.

⁶³ Eric A. Hanushek & Ludger Wößmann, "The Role of Education Quality in Economic Growth." World Bank Policy Research Paper #4122 (February 2007).

⁶⁴ Sources: U.S. Census Bureau. "Exports from Manufacturing Establishments: 2001." Washington, DC: U.S. Department of Commerce. Table 2, p. 8. (July 2004) and James C. Cooper and Kathleen Madigan, "U.S.: Why Profits are Defying Gravity; More Pricing Power and Better Foreign Earnings Will Fuel the Bottom Line," *Business Week*, April 18, 2005: 25.

⁶⁵ James C. Cooper and Kathleen Madigan. "U.S.: Why Profits are Defying Gravity; More Pricing Power and Better Foreign Earnings Will Fuel the Bottom Line." *Business Week* (April 18, 2005): 12-14.

⁶⁶ Ibid. pp. 5, 12-14.

⁶⁷ Tora K. Bikson and Sally A. Law, *Global Preparedness and Human Resources: College and Corporation Perspectives* (Santa Monica, CA: Rand Corporation, 1994): 28-29. This author provided the following quotes; one manager stated that, compared to their counterparts from universities in other parts of the world, U.S. students are "strong technically" but "shortchanged" in cross-cultural experience and "linguistically deprived." Another stated: "Universities don't think globally—it's not ingrained in their philosophy and curriculum to create the global worker." Lastly, a third corporate manager stated "If I wanted to recruit people who are both technically skilled and culturally aware, I wouldn't even waste time looking for them on U.S. campuses."

⁶⁸ Ben L. Kedia and Shirley Daniel, "U.S. Business Needs for Employees with International Expertise" (paper prepared for the Conference on Global Challenges and U.S. Higher Education at Duke University, Durham, NC, January 2003): 5, 12-14, 17.

⁶⁹ Michael Lemmon, "Meeting the Need for World Languages." (remarks given at the States Institute on International Education in the Schools, November 16, 2004), available at www.internationaled.org/statesinstitute2004/MichaelLemmon.pdf. (Accessed 1 March 2008).

⁷⁰ National Commission on Terrorist Attacks Upon the United States, *The 9/11 Commission Report* (Washington, DC: U.S. Government Printing Office, 2004), p. 92 & 77. The CIA's Clandestine Service "... was not equipped to seek or use assets inside the terrorist network" and lastly at home the FBI's counter-terrorism efforts have been hampered by a lack of trained

linguists, translators, and area experts. “The FBI did not dedicate sufficient resources to the surveillance and translation needs of counter-terrorism agents resulting in a significant backlog of un-translated intercepts.”

⁷¹ US Department of Education. “National Security Language Brochure” January 2006. <http://www.ed.gov/print/about/inits/ed/competitiveness.nsl/nslibrochure.html>. (Accessed 1 March 2008).

⁷² CIA Factbook. <https://www.cia.gov/library/publications/the-world-factbook/geos/xx.html#People>. (2008). That number doubles when people who speak English as a second or third language are counted.

⁷³ The US Census Bureau. American Community Survey http://www.census.gov/acs/www/acs-php/2006_experienced_users_guide.php?acs_topic=Language. (Accessed 1 March 2008).

⁷⁴ National Virtual Translation Center. “Languages in American Schools and Universities.” <http://www.nvtc.gov/lotw/months/november/USschoollanguages.htm>. (Accessed 28 February 2008).

⁷⁵ Jamie B. Draper and June H. Hicks. “Foreign Language Enrollments in Public Secondary Schools Fall 2000.” American Council on the Teaching of Foreign Languages. May 2002. <http://www.actfl.org/files/public/Enroll2000.pdf> (Accessed 5 March 2008).

⁷⁶ Ibid

⁷⁷ Committee for Economic Development. “Education for Global Leadership: The Importance of International Studies and Foreign Language Education for U.S. Economic and National Security 2006.

⁷⁸ US Department of Education. “Teaching Language for National Security and Global competitiveness: US Department of Education Fact sheet.” Department of Education. January 2006. <http://www.ed.gov/print/news/pressrelease/2006/01/01052006.html>. (Accessed 27 Feb 2008).

⁷⁹ Ibid

⁸⁰ Commission of the European Communities. “Communication from the Commission to the Council, The European Parliament, The Economic and Social Committee and the Committee of the Regions Promoting Language Learning and Linguistic Diversity.” Brussels (July 24, 2003): 4.

⁸¹ European Commission. Europeans and their Languages.” *Eurobarometer*. February 2006: 1.



ICAF

Bibliography

Anne Arundel County Public Schools. <http://www.aacps.org>

Barnes, Gary Ph.D., Edward Crowe, Ph.D., and Benjamin Schaefer. "The Cost of Teacher Turnover in Five School Districts: A Pilot Study," National Commission on Teaching and America's Future (2007).
http://www.nctaf.org/resources/demonstration_projects/turnover/documents/CTTFullReportfinal.pdf.

Barnes, Gary Ph.D., Edward Crowe, Ph.D., and Benjamin Schaefer, "The High Cost of Teacher Turnover," Policy Brief for the National Commission on Teaching and America's Future (2007).
http://nctaf.org.zeus.silvertch.net/resources/research_and_reports/nctaf_research_reports/documents/CTTPolicyBrief-FINAL_000.pdf

Barnett, W. Steven, Ph.D. "Economics of Early Education, Benefits and Costs of Quality Early Education for All", October 27, 2006.

Belfield, Clive. "Does It Pay to Invest in Preschool for All? Analyzing the Return-on-Investment in Three States." *National Institute for Early Education Research (NIEER)*. (January 2006). <http://nieer.org/resources/research/doesitpay.pdf>

Bikson, Tora K. and Sally A. Law, *Global Preparedness and Human Resources: College and Corporation Perspectives* (Santa Monica, CA: Rand Corporation, 1994).

Bowsher, Jack E. *Fix Schools First: Blueprint for Achieving Learning Standards*. Aspen Press. Maryland, 2001

Cafarelli, Deborah A. *Homeschooling in the U.S.* Unpublished manuscript, Industrial College of the Armed Forces, AY 2006-2007.

Central Intelligence Agency Factbook (2008).
<https://www.cia.gov/library/publications/the-world-factbook/geos/xx.html#People>.

Commission of the European Communities. "Communication from the Commission to the Council, The European Parliament, The Economic and Social Committee and the Committee of the Regions Promoting Language Learning and Linguistic Diversity." Brussels (July 24, 2003).

Committee for Economic Development. "Education for Global Leadership: The Importance of International Studies and Foreign Language Education for U.S. Economic and National Security 2006.

Cooper, James C. and Kathleen Madigan. "U.S.: Why Profits are Defying Gravity; More Pricing Power and Better Foreign Earnings Will Fuel the Bottom Line." *Business Week* (April 18, 2005).

Coulter, Tricia and Ashley Zaleski. "How Teacher Working Conditions are Related to Teacher Attrition and Student Learning," *The Progress of Education Reform—2007*, Education Commission of the States, 8.6 (Dec 2007). <http://www.ecs.org/clearinghouse/77/05/7705.pdf>.

District of Columbia Public Schools. <http://www.k12.dc.us>

Draper, Jamie B. and June H. Hicks. "Foreign Language Enrollments in Public Secondary Schools Fall 2000." *American Council on the Teaching of Foreign Languages*. May 2002. <http://www.actfl.org/files/public/Enroll2000.pdf> (Accessed 5 March 2008).

European Commission. "Europeans and their Languages." *Eurobarometer*. (February 2006).

Fairfax County Public Schools. <http://fcps.edu>.

Fiske, Edward B. "A Nation at Loss", *New York Times*. April 25, 2008.

Fleischhacker, Sheila, PhD. "Food Fight: The Battle Over Redefining Competitive Foods." http://eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?_nfpb=true&_ERICExtSearch_SearchValue_0=EJ751835&ERICExtSearch_SearchType_0=no&accno=EJ751835 (accessed 4/1/2008, 2008).

Government Accountability Office (GAO), Report to Congressional Requesters. *Charter Schools: New Charter Schools Across the Country and in the District of Columbia Face Similar Start-Up Challenges*; GAO-03-899. September 2003.

Grant, Robert M. *Contemporary Strategy Analysis*. Blackwell Publishing. Malden, Massachusetts, 2008.

Hanushek Eric A. & Ludger Wößmann, "The Role of Education Quality in Economic Growth." World Bank Policy Research Paper #4122 (February 2007).

Ingersoll, Richard. "Teacher Shortages and Education Inequality," National Education Association Visiting Scholar Series Research Brief, vol 1 (Spring 2005) <http://connect.nea.org/edstats/ResearchPubs.html#Vsmaterials>.

Johnson, Carol A. *Is Obesity Affecting United States (US) National Security? The School Solution to Childhood Obesity*. Industrial College of the Armed Forces. 2007.

Kedia, Ben L. and Shirley Daniel, "U.S. Business Needs for Employees with International Expertise" (paper prepared for the Conference on Global Challenges and U.S. Higher Education at Duke University, Durham, NC, January 2003).

Kelsen, Iris H. and Lawrence T. Lesick. "Recruiting and Admitting Adult Learners: They're Not just Older - They're Different." Chap. 5, In *Best Practices in Adult Learning*, edited by Lee Bash, 49-64. Bolton, MA: Anker Publishing Company, Inc., 2005.

Lemmon, Michael. "Meeting the Need for World Languages." (remarks given at the States Institute on International Education in the Schools (November 16, 2004) www.internationaled.org/statesinstitute2004/MichaelLemmon.pdf. (Accessed 1 March 2008).

Levine, Linda. *Youth: From Classroom to Workplace?* Congressional Research Service. April 2005.

Lovett, Clara M. "Focusing on what Matters." *Change* 35, no. 2 (March/April 2003, 2003): 33-38.

Maehl, William H. "Adult Degrees and the Learning Society." *New Directions for Adult and Continuing Education* no. 103 (Fall 2004, 2004): 5-16.

McPherson, James M. "Brahmins at War." In *This Mighty Scourge: Perspectives on the Civil War*. 145-154. New York: Oxford University Press, 2007.

Murnane, Richard J., and Jennifer L. Steele. "What is the Problem? The Challenge of Providing Effective Teachers for All Children," *The Future of Children*, 17.1 (2007). http://muse.ibu.edu/journals/future_of_children/y017/12_lmurnane.html.

National Commission on Terrorist Attacks Upon the United States, *The 9/11 Commission Report* (Washington, DC: U.S. Government Printing Office, 2004).

National Education Association. "Professional Pay: Myths and Fact." <http://www.nea.org/pay/teachermyths.html>.

National Virtual Translation Center. "Languages in American Schools and Universities." <http://www.nvtc.gov/lotw/months/november/USschoollanguages.htm>. (Accessed 28 February 2008).

The New Yorker. <http://newyorker.com>.

Peterson, Paul E. and Martin R. West. *No Child Left Behind? The Politics and Practice of School Accountability*. Washington D.C., The Brookings Institution, 2003.

Rhoda, Karen I. "The Role of Distance Education in Enhancing Accessibility for Adult Learners." Chap. 10, In *Best Practices in Adult Learning*, edited by Lee Bash, 149-172. Bolton, MA: Anker Publishing Company, Inc., 2005.

Robinson, Peter, "Literacy, Numeracy and Economic Performance," *New Political Economy*. Vol 3 Issue 1 (March 1998).

Snipes, Jason. "Foundation for Success: Case Studies of How Urban School Systems Improve Student Achievement-An Abstract". Council of the Great City Schools. (September 2002).

Stodghill, Ron. "For Schools, Lottery Payoffs Fall Short of Promises." *New York Times*. (2007)
http://www.nytimes.com/2007/10/07/business/07lotto.html?_r=1&scp=2&sq=Lottery+education+Georgia&st=nyt&oref=slogin

Tanner, D. and Tanner, L., *Curriculum Development: Theory into Practice*, New York: MacMillan, 1980.

"The University of Phoenix." The University of Phoenix. <http://www.phoenix.edu> (accessed March 28, 2008).

USA Today. SAT Scores by State. http://www.usatoday.com/news/education/2007-08-28-sat-table_N.htm. August 2007.

U.S. Census Bureau. <http://www.census.gov>

U.S. Department of Education. *No Child Left Behind Overview – Four Pillars of NCLB*. <http://www.ed.gov/nclb/overview/intro/4pillars.html>

US Department of Education. "National Security Language Brochure" January 2006. <http://www.ed.gov/print/about/inits/ed/competitiveness/nsli/nslibrochure.html>. (Accessed 1 March 2008).

US Department of Education. "Teaching Language for National Security and Global competitiveness: US Department of Education Fact sheet." Department of Education. January 2006. <http://www.ed.gov/print/news/pressrelease/2006/01/01052006.html>. (Accessed 27 Feb 2008).

U.S. Department of Education, National Center for Education Statistics (NCES), Washington D.C. (<http://www.ed.gov/stats.htm>).

Wallis, Claudia. "How to Make Great Teachers," *TIME* (13 Feb 2008).
<http://www.time.com/time/nation/article/0,8599,1713174,00.html>

Winston, Gordon C. "Subsidies, Hierarchy and Peers: The Awkward Economics of Higher Education." *Journal of Economic Perspectives*. Volume 13, No. 1 (Winter 1999).