

Addendum to SAIS White Paper, *What Will Make Good Schools Great?*  
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In writing the initial White Paper, I sought to fire a proverbial *shot across the bow* to awaken independent schools to critical 21<sup>st</sup> century educational challenges. This brief addendum will attempt to add greater specificity, more opportunity for dialogue, and, perhaps, a new sense of urgency in addressing the issues. The paper will also review and expand on several points mentioned during my presentation at the SAIS Heads Conference in Atlanta, GA.

### **The Hummer Syndrome**

I recall my initial astonishment when a new Hummer proudly circled the school's driveway and deposited a smiling student at the door of an academic building. It was my first encounter with that rather grotesque, inefficient, civilian transportation machine. Today, there are Hummers in student parking lots, and board members and school administrators seeking Hummers-like school facilities to impress newcomers while immortalizing donors. Some of the facilities that are part of our new "arms race" are as wasteful and ill-suited to education as the Hummer is to the needs of commuting. I would strongly recommend that private schools pursue a policy of functional modesty in facilities and majestic luxury in the quality of its faculty.

Of specific concern, we should focus on total athletics costs including capital, as opposed to our expenditures for science facilities, instructors, and related professional development. What is the dollar ratio of sports to science expenditures at your school, and how does that relate to the school's mission? Can you achieve a 1:1 ratio, or 1:3 dollar ratio for athletics and the sciences? It is difficult for me to believe that independent schools seek serious and substantive academic reforms, or the concept of "greatness," when their resources too often speak of monumental sports facilities/programs and palatial buildings that do little to elevate significantly the core elements of teaching and learning. It appears that too many independent schools pursue an academic program akin to a small elite college, but relish a sports program equivalent to a Big Ten university. Independent schools MUST spend their finite resources to advance, in priority order, the educational agenda items most critical to their students in the 21<sup>st</sup> century. As such, I believe that science must rank far higher than athletics.

### **A Paragon of Excellence**

During conversations with elementary school teachers, I often ask about the number of students being tutored by outside "experts." Recently, one such teacher declared that nearly one-third of her students were receiving such support, with an inference that there existed an array of student or family problems that were contributing factors. Her comments were delivered in a *matter of fact* manner, while my reaction, although hidden from view, was shocking at best. How is it possible at good independent schools, where admission and retention scrutiny abound, that so many students need outside academic support? I believe that the issue at hand is often correlated to the competency of the teaching staff, and, at times, to a cavalier approach in suggesting to parents the need for tutoring. A significant cottage industry has arisen to assist private school students in

elevating their reading abilities, in addition to raising SAT, ACT, and AP scores at the high school level. (We should also take a good look at the high percentage of parents who hire, at considerable expense, outside college advisors to assist their children in the college admissions process.) Why? In the case of reading, far too often the answers can be found in the absence of effective teaching of phonics, a reliance on whole language models, and the inability to individually assess, accommodate, and teach to the needs of students. Simply stated, independent schools MUST develop superb, in-house reading programs that effectively support the needs of all the children accepted to their schools. This will require the hiring and retention of teachers who know and can demonstrate how to teach reading; several highly trained reading specialists who can continue to elevate the reading skills of the faculty while working with children who have relatively severe reading problems; ongoing and focused professional development programs in reading for all K-6 teachers; and the incorporation of best practices from several programs, such as reading recovery, into the reading curriculum of the school. Without a superb reading program, no independent school will enter the “great” category. However, once acquired, such a program could be the source of important outreach efforts to the larger community, providing essential reading workshops to public and private school colleagues, as well as interested parents. As for the host of other subjects tied to outside tutoring, the school community must address the “whys” for those needs and how to provide the necessary expertise within the school environment. Resolving such dilemmas is a sign of institutional wisdom, and a recognition that expertise is a critical element in the quest for excellence or greatness.

### **The Conference Book**

Thomas Friedman’s book, *The World is Flat*, was highly praised and prominently featured at the SAIS Head Conference. It is certainly a worthy read for the faculty/administration, board, parents, and high school students at any independent school. If those constituencies do indeed tackle, evaluate, and extrapolate ideas from the book, there would be a marvelous opportunity for a school-wide gathering to discuss the implications of the Friedman themes and related theses upon the school’s strategic plan. During my SAIS presentation, I chose the following quote from the Friedman book:

*He (David Baltimore, the Nobel Prize-winning president of Caltech) told me that he is struck by the fact that almost all the students who make it to Caltech, one of the best scientific universities in the world, come from public schools, not from private schools...*

Baltimore continued with the following remark:

*I look at the kids who come to Caltech, and they grew up in families that encouraged them to work hard and to put off a little bit of gratification for the future and to understand that they need to hone their skills to play an important role in the world. I give parents enormous credit for this, because these kids are coming from public schools that people are calling failures. Public education is producing these remarkable students-so it can be done.*

What is the independent school response to Baltimore’s remarks? Do we not want to compete? Should our students not be represented in high numbers at Caltech? Are we a bit complacent about what is occurring in certain sectors of public education? I am an “academic patriot,” and, as such, I want our independent school students to be able to

compete with the best in the country, the best in the world...and to succeed in that competition. What should be done?

### **The Challenge**

The most recent results of the Trends in International Mathematics and Science Study (TIMMS; formerly the Third International Math/Science Study) should be alarming to all U.S. educators, school board members, and parents. In science, our 8<sup>th</sup> graders scored significantly below Singapore, Taipei/Taiwan, Korea, Hong Kong, Estonia, Japan, and Hungary, and our score was not significantly different from those of Netherlands, Australia, Sweden, Slovenia, and New Zealand. Independent schools have long ignored the implications of TIMMS, rarely assessing and incorporating appropriate insights into their strategic academic thinking, and never (is there an exception?) suggesting their willingness to compete in the TIMMS examinations. That has been unfortunate. Enter a new study, published in October 2005, by the prestigious National Academy of Sciences. Entitled, *Rising Above the Gathering Storm*, this report is authored by a highly distinguished panel that includes Nobel Prize winners, corporate leaders, academic scholars, and university presidents. Among its “worrisome indicators” is included,

*US 12<sup>th</sup> graders recently performed below the international average for 21 countries on a test of general knowledge in mathematics and science. In addition, an advanced mathematics assessment was administered to US students who were taking or had taken precalculus, calculus, or Advancement Placement calculus and to students in 15 other countries who were taking or had taken advanced mathematics courses. Eleven nations outperformed the United States and four countries had scores similar to the US Scores. No nation scored significantly below the United States.*

That insight should send shivers down the academic spines of independent schools. Advanced math students, whether attending public or private schools, are generally among the most accomplished of the student body. The difference between the skill sets of those in private and public schools is often not significantly different. Do you anticipate that your students would fare better on the international examinations, and, if not, what do you intend to do? If you believe that they would indeed demonstrate academic superiority, I hope that you will put it to the test, so your educational model could be a source of exploration and learning by other private/public schools. No place in the National Academy of Sciences report is there any mention that American private schools have the ability to lead the nation out of this vexing situation.

### **The Challenge Continued**

*Rising Above the Gathering Storm* is a must read for all private schools. But, more importantly, when will the nation and, in particular, current and potential private school parents hear the response of NAIS, regional associations, and individual independent schools to the challenges posed by the report? The content of that response must speak to a shift of expertise, resources, and time devoted to science and mathematics for all students. It should be a core element within ongoing strategic thinking.

### **The Iconoclast**

At the SAIS conference, I asked the assembled, distinguished educators to identify the most famous headmaster in U.S. history. Unknown to all was the name and deeds of Abraham Flexner, a headmaster at the Louisville school that he established. Later in life, his studies and leadership were critical to the reform of American medical education, although he had never attended a medical school or practiced medicine. He was also the founding father of the Institute for Advanced Studies in Princeton, where Einstein was in residence. He is well remembered and honored at every American medical school. He was the epitome of the insightful, intellectual *iconoclast* (the title of a book on Flexner by Thomas Bonner). American education, including private schools, must foster leaders, such as Flexner, who willingly do what is right and necessary in the face of the traditions of the day. We must alter the current curricular elements of our K-12 education so that science and math have enormous luster in the teaching and learning components of our schools. Flexner advocated the importance of science within the curriculum; *Rising Above the Gathering Storm* raises the alarm about American student performance in science and mathematics; and there is no evidence in the “flat world” thesis that American private school students rank among the best in the world in science and mathematics. Are independent schools determined enough to compete and win this critical world competition in science and mathematics?

### **Steps in the Right Direction...but how fast will we travel?**

I am convinced that independent schools have some of the talent and resources required to develop programs and to create environments that will enable their students to emerge with necessary skills sets, expertise, experience, and appropriate confidence to compete effectively with their global peers in the science arena. Of equal importance, our graduates must be able to use the logic of the sciences and the values of the humanities in confronting and resolving vexing national and international issues that will increasingly impact their lives and the welfare of our society. I would recommend the following:

- A recognition that no K-12 science faculty has the necessary *critical mass* to assume national or international leadership in science education.
- That an integral and ongoing partnership between K-12 and higher education will provide the most immediate and best approach to addressing the issue. Only through this partnership will a school be able to achieve the necessary *critical mass* to address and resolve related science issues. A more sophisticated alternative would be the linkage of several private schools with a distinguished university. That would create a more innovative and stronger *critical mass* than could be achieved by the association of one independent school and one university. Such synergy would usher in a new era in independent school education. (Currently, the Center for Science Outreach at Vanderbilt University is connecting the scientific resources of the university/medical center to K-12 education. Such models should be refined and expanded across the nation.)
- That the concept and practice of *research* must be inherent within all courses/classes at K-12 schools, with innovative and exemplary year-round research projects for students AND faculty in science classes, particularly at the middle and high school levels.

- That science and its components must be placed near or at the center of the curriculum in order to design and practice their essential integration with other subjects.
- That post-doctoral science students be hired and mentored to teach middle and high school science classes, while they are supported, financially and via lab facilities, to continue their research projects within independent schools. These individuals should instruct students on research techniques and direct ongoing student research in well equipped and dedicated laboratories.
- That retired scientists should be incorporated as teachers or assistants in science programs/classes at all levels of the school.
- That in collaboration with universities, innovative technology and videoconferencing programs should be designed and established.
- That extensive and ongoing professional development should be available to all science teachers. The entire faculty should participate in *research workshops* and related programs that will enable all teachers to gain a rudimentary understanding of the concepts and vocabulary of science. The culture of the school should reflect an excitement for science and a willingness to have it permeate all aspects of the institution.
- That pilot research programs, interdisciplinary courses, and university connected programs be created at several independent schools, either individually or in collaboration with other private/public schools.
- That regional independent school associations fund and create “think tank” seminars that will regularly draw upon the insights and imaginations of educators, business leaders, and university scholars in the design of science programs. These “think tanks” should publish and disseminate the results of the seminars.
- That regional independent school associations create highly qualified “itinerant science advisory teams (ISATs) to assist member schools in elevating their science programs and outcomes, as well as connecting them to local science/medical centers, corporations, and individuals with needed expertise.
- That NAIS should assume a strong, active, and financially supportive role in elevating the role of the sciences in independent schools, while engaging member schools in the ongoing and related national and international dialogues.

In the successful pursuit of excellent programs or institutional greatness, it is axiomatic in the 21<sup>st</sup> century that diversity must be inherent within the institution. One need only to look at our great universities, as well as the global talent pools, to accept that premise. In essence, if independent schools do not change in form and function, they may well find themselves comfortable second raters walking along pleasant pathways, waving to newly accelerated institutions of learning whose graduates will be far better prepared for the challenges of this century.

