

**TEACHING AND LEARNING IN THE 21ST CENTURY:
WILL THE NATION'S PUBLIC BLACK COLLEGES DEFINE
THE TEACHING MODEL OF THE FUTURE?**

The future of the national desire to reform and improve the American education system rests on the shoulders of the American teaching force. Consequently, we must discover a new way to prepare teachers and a reform methodology for the pedagogy of teaching and learning. In this paper we try and answer these questions, by featuring a program called the GAP program created by three University of the District of Columbia professors.

The concepts of teaching and learning today are very much at the heart of the entire agenda regarding the reform of education in the United States. Billions of dollars have been already spent or allocated in the push to make America's schools "world class." Needless to say, it would be foolhardy to really believe that the public schools of America are such total failures. They could not possibly be. It is more that the public schools have received such a bad public relations hit along with a devastating political black-eye that it's hard to do battle with those who seem to think that nothing good comes out of the school system if it cannot be tested and measured. We should acknowledge, however, that there are a tremendous number of underperforming schools in the nation.

Probably, if all the reform measures or standards had been in place 100 or even 50 years ago, where would we be? Would we know for sure that schools in other countries really are superior to ours? What their students represent is the ability to very definitely take and do well on a test. Whether or not it demonstrates their actual knowledge or proficiency in the subject matter is another question.

Scholars are now beginning to raise issues regarding testing and measurement. We do not need to dismantle the public education system which has been the great equalizer in American society or at least to push it totally into a test and measurement teaching pedagogy. One of the early education reformers was Diane Ravitch. Ms. Ravitch's new book entitled, *The Death and Life of the Great American School System* has this to say about the ideas that are central to the school reform movement that is in full swing in the United States today.

..."Education is the key to developing human capital. The nature of our education system – whether mediocre or excellent – will influence society far into the future. It will affect not only our economy but also our civic and cultural life. A democratic society cannot long sustain itself if its citizens are uninformed and indifferent about its history, its government and the workings of its economy. Nor can it prosper if it neglects to educate its children in the principles of science, technology, geography, literature and the arts. The great challenge to our generation is to create a renaissance in education, one that goes well beyond the basic skills that have recently been the singular focus of federal activity, a renaissance that seeks to teach the best that has been thought and known and done in every field of endeavor.

The policies we are following today are unlikely to improve our schools. Indeed, much of what policymakers now demand will very likely make schools less effective and many further degrade the intellectual capacity of our citizenry. The schools will surely be failures if students graduate knowing how to choose the right option from four bubbles on a multi-choice test, but unprepared to live fulfilling lives, to be responsible citizens, and to make good choices themselves, their families and our society..." (1) Pages 223-224.

...Ravitch continues. "The fundamentals of good education are to be found in the classroom, the home, the community and the culture, but reformers in our time continue to look for shortcuts and quick answers. Untethered to any genuine philosophy of education, our current reforms will disappoint us, as others have in the past. We will, in time, see them as distractions, wrong turns and lost opportunities. It is time to reconsider not only the specifics of current reforms but also our very definition of reform. (2) Page 225.

In the face of such a dramatic series of statements, Diane Ravitch is John the Baptist crying in the wilderness. For someone to hear that we may be on the wrong track based on evidence and research studies that have looked at the various curriculum, teaching methods, pedagogy and a review of the schools that have been funded and started during this period of reform is devastating. This is not to say that all reform has been bad or is bad even though Ms. Ravitch seems to think that it has been devastatingly disappointing.

The upshot is how can the Thurgood Marshall College Fund bring to the fore a series of prospects that might be advantageous to, if not fulfilling the reform goal. The reform mission might be redirected so that the thrust of the movement is not so tied to math and science solely

but to the development of the whole individual, and in our own way, the global individual who is prepared to take a leadership position in the world house as defined by Dr. King.

We see this as our mission. The quest for education by African-Americans has been informed by the various visions and visionaries who have brought African-Americans in just a few generations from slavery to the White House. This particular moment in time requires a thoughtful assessment of what the next level in education reform should look like and what shape it should take.

Education Mission

Structurally, it seems that the quest for quality teachers and a sound pedagogy to prepare America's students is at the heart of the reform movement. Certainly, the mission for all of education in the United States requires some thought. At this moment there are a few people who would say that they have the answer. Therefore, it seems that this is one area where the nation and the many stakeholders who are so passionately invested in what happens to public education define for themselves a venue where they can talk and craft a genuine educational mission for the United States: a mission that is multifaceted and with many layers leading to one objective – the universal education of all American young people and the building of an educational structure that leverages every possible institution that has interest as a supporter and stakeholder in making this a reality.

Within the near future, it seems absolutely mandatory that a conference or at least a series of workshops on education mission in the United States be convened. This is a mandatory effort on the part of the black higher education establishment. Every series of statistical data published in the United States points to one glaring gap and that is the lagging educational scores of African-American children and adults. It should not be considered a national disgrace but a gigantic series of missed opportunities from the federal, state and local governments, that certain groups are having such a dismal educational experience.

This conference could be one of the first steps in planning how we attack this major issue. There are two arenas around which this mission would be crafted. At the center, would be teacher enhancement and development and pedagogical reform leading to a new teaching process and productivity for both learners and teachers.

Scholars agree that the literacy gap for children and youth is rooted in poverty. According to the National Center for Children in Poverty at the Mailman School of Public Health at Columbia University, nearly one in every five American children lives in poverty. Sixty-one percent of black children live in low income families which represents 6.4 million children; almost two-thirds of the population.

It is pretty clear where the problems start and why it exists – poverty. Poverty which seems to be a dirty word these days, is the single best predictor of the lack of achievement and yet poverty is not a top priority on anyone's agenda today.

To be poor in 2010 is one's own fault. These ideas come out of the political conservative agenda of the '80s and '90s. People are poor because either they wish to be or they are too uninformed and unmotivated to do better. This is a very sad position for the world's lone super power to be in. It says much about who we are as a nation and it speaks volumes as to why we cannot close the education gap or do not have the will to close the gap. But we are aware of what must be done if we are to close the gap. There are workable solutions to alleviate the staggering poverty statistics in the United States – the university professionals within the TMCF could provide the necessary scholarship and leadership to implement multiple solutions, based on lessons learned in our land grant efforts and best practice initiatives that are working across the nation.

Impact of Poverty

To add to this gloomy picture, look at an article on Bloomberg.com dated September 10, 2009; the headline reads:

“U.S. Poverty Rate Rises to 11-year High as Recession Takes a Toll. Poverty has risen from 12.5 percent to 13.2 percent for the nation as a whole, up from 35.9 million or 12.5 percent in 2003. There are 7.9 million families in poverty in 2004, up from 7.6 million in 2003. In 2004, the poverty rate declined for Asians, 9.8 percent in 2004, down from 11.8 percent in 2002; remained unchanged for Hispanics, 21.9 percent and blacks 24.7 percent, and rose for non-Hispanic whites, 8.6 percent in 2004, up from 8.2 percent in 2003.

For all children under 18, both the 2004 poverty rate of 17.8 percent and the number in poverty, 13 million, were unchanged in 2003. The Midwest is the only region to show an increase in poverty, 11.6 percent in 2004 up from 10.7 percent in 2003. In 2004, the poverty rates for the Northwest 11.6 percent, the South 14.1 percent, and the West 12.6 percent were unchanged in 2003. The South continued to have the highest poverty rate in the nation.”

Clearly, a picture emerges that poverty continues to grow in America. The number of children in poverty has certainly grown and it makes very little sense to talk about closing the education gap when the research finds poverty a key indicator for success or failure in the present education system. But could there be a workable, alternative option. We believe that two such options do exist. One, an extended definition of literacy and a redesign of a learning and teaching pedagogy that removes poverty as a stumbling block for success among poor students.

Literacy

It is important to at least give some credence to new definitions of literacy. The general definition, of course, has been the ability to read and write and understand the written word in society and the level with which one does that with proficiency. There are also new definitions of literacy that can be used to create a larger arena for assessment of literacy skills.

A report prepared by the Village Foundation in 2000, listed nine definitions of literacy: emotional literacy, family literacy, information literacy, legal literacy, math literacy, media literacy, theoretical literacy, social literacy, and workplace literacy. This may seem elongated but it does offer a wide array of expectations for people who are struggling to attain literacy in society. All of these, of course, require the basic literacy skill – reading.

What these new expansions of literacy offer is the need to be proficient in how to read to understand one's medical records and directions for taking medication, reading and understanding one's legal issues, reading and understanding math related areas which influence comprehension of financial aspects of everyday living. Media literacy is certainly a necessary aspect to just about everything we do in America in both public and private life. The restructuring of America's educational system should in fact – particularly at the college level – take into effect these expanded literacy skills.

One-half of the mission equation is multiple “literacy’s”; the other half is multiple intelligences. Howard Gardner's *Intelligence Reframed* and the *Multiple Intelligences* offer an expanded view of intelligence that correlates very well with the expanded view of literacy. Multiple intelligences and multiple literacy definitions are keys to an enhanced and workable structure to re-envision and reformat the American educational structure and the delivery of that learning to multiple groups of students.

An additional option is the Gateway Academic Program.

An Answer: The Gateway Academic Program (GAP)

Can we reformat the delivery of teaching and learning today? The answer is that it already has been accomplished. It has been accomplished mainly through a program that might not recognize the terms of either expanded literacy or multiple intelligences but simply a new pedagogy and dedicated and mature learning styles of three professors at the University of the District of Columbia, and their program: the Gateway Academic Program. The three professors are Dr. Daryao S. Khatri, professor of physics; Dr. Anne O. Hughes, professor of sociology, retired; and Professor Brenda Brown. Professor Khatri is a physicist, Professor Hughes is a social scientist, and Professor Brown is a mathematician.

What they have done at the University of the District of Columbia is truly astounding. They have – probably against all odds – demonstrated that poverty itself may not be the defining

factor or barrier to closing the gap in the critical educational skills that the school reform movement considers important – math and science. GAP does not discount poverty but the project works with individuals who are at least motivated and are already struggling in the system. They are not educational drop-outs where poverty may be the overriding factor.

Over the past two decades, through extensive research and work, GAP has successfully demonstrated that the high school disparities in math, reading and English, which most minority students are unable to master above the remedial level, can be closed during an intensive eight-week summer program. This seems almost impossible. According to research done on the program, it successfully eliminated the need for college remedial courses for between 70 percent and 80 percent of participating high school and entering freshman who were a part of the GAP program.

According to their success stories, five students who decided to major in math and math-related fields are on track to graduate in the typical four- or five-year period with bachelor's degrees. One student who started at the bottom of the ACCUPLACER testing spent the following summer at the national Fermilab as a student intern. Another student had been offered a full scholarship for both undergraduate and graduate work in physics. A third student who did not care about books at all cannot be seen on campus without a book anymore. A fourth student who started as a total failure in high school is on his way to becoming a physician. The fifth student who is a double major in psychology and physics is expected to graduate in a typical four- or five-year frame.

So what can produce these astounding results? In the GAP program, the retention rates are between 95 percent and 100 percent in Introductory College Physics 1 and 2: the national rate is between 25 and 40. The GAP program, through management and teaching strategies, transformed teaching skills of high school teachers and college faculty. There are reports of classroom retention in Chemistry I moving from 50 percent to 97 percent and student's success tripling from 30 percent to 90 percent. GAP offers two types of service: 1) intensive academic programs to overcome student deficiencies in algebra, reading and English; and, 2) teacher-faculty training for high school teachers and college students. It's a daily after-school three-

hour-per-day intensive academic program for students are in high school and doing poorly in math, English and reading, and who want to graduate from high school rather than drop out, and a summer eight-week four-hour-per-day intensive academic program for students who graduated from high school but who will be required to take remedial math, reading and/or English courses prior to taking college level courses. For teachers, it is a two-week, six-hour-per-day enhancement training in the GAP pedagogy, which is offered in Washington, D.C. or at convenient locations; and a follow-up two-week mentoring program is offered throughout the whole semester. These teachers receive a GAP training certificate.

These are the basic core ingredients of the GAP and what are the results? GAP results for both pre- and post-test of all of the students by the National College Board ACCUPLACER for the past four summers starting in 2006 to the present are highlighted on their Web site. In basic math and introductory algebra, in the summer 2006 pilot program, 50 percent of students tested out of either one or both of the remedial math courses based on the College Board ACCUPLACER test; of those, 15 percent of the students decided to major in physics.

The summer '07 research reports 50 percent of the students tested out of both the remedial math courses thereby saving themselves one year of remedial course work; 31 percent tested out of one remedial math course thus avoiding a semester of remedial course work; 31 percent of the students decided to major in math, physics and chemistry; 82 percent of these students are still enrolled in college.

In 2008, 68 percent of the students tested out of both remedial math courses; 16 percent tested out of one remedial math course; 30 percent of those students were interested in math, science and engineering disciplines.

In 2009 at a local high school, 54 percent of the high school juniors and seniors in the GAP tested out of both remedial math courses; 7 percent tested out of one remedial math course; 37 percent of the students who tested out scored in the 96 and 98 percentile range. More than half of them were interested in pursuing math and science and major courses of study, reading and English.

In the summer '08 pilot program, 36 percent of the students tested out both remedial reading and English courses; 18 percent tested out of one remedial English course.

Summer '09 research report, 44 percent of the high school juniors and seniors tested out both remedial reading and English courses; thereby saving themselves one year of remedial English course work; 25 percent planned to major in English.

These astounding outcomes are based on small pilot programs of 15 to 20 students, but students were selected because they scored at the bottom in all math and English entry test for college. It says that there is a way to close the gap on the worst scorers on these tests so that they all – and the keyword is, *all* – can accomplish, compete and succeed. The Gateway Program has proven this beyond a shadow of a doubt. So how was it done?

Drs'. Hughes and Khatri have written two books, *Color-Blind Teaching: Excellence for Diverse Classrooms* and *American Education Apartheid- - Again?* These two books provide the basis for the pedagogical strategies that are used in the GAP.

The authors stressed, of course, that there are two ingredients for success: Teachers who know what they're doing and students and teachers who are both engaged in the learning process. They establish in Chapter 6 of the *American Education Apartheid - - Again?* how the pedagogy works. Among other things, recognize different knowledge levels of the students (which may in fact, be exactly the reason for pursuing the ideas of multiple “literacies” and multiple intelligences); be sensitive to how one teaches; sustain high expectation levels regardless of cultural diversity; know the content to be taught; demonstrate energy and enthusiasm; anchor new concepts to familiar experiences; gain the attention of learners before presenting the content; stimulate analogical learning; divide problems into finite steps; structure the subject matter for incremental learning; engage in meaningful practice and repetition (code word, drill); manage classroom; assure equal participation; capitalize on students' good errors; provide sufficient time in the classroom for note taking; minimize deductive learning with beginning students in a discipline; maximize opportunities for inductive learning. (*American*

Education: Apartheid-Again?: Khatri and Hughes; Chapter 6 – The Teaching Model, pp 75-90; Scarecrow Education Book 2002)

Inductive/Deductive Learning

So what anchors the Professors new structure for the delivery of educational content? GAP anchors new concepts to familiar experiences, maximizing inductive learning that moves to deductive learning with beginners in a discipline. The mantra here is to move from the familiar and the simple to the complex:

“...The use of finite steps is not confined to problem solving in the sciences or statistics...The same approach can be used in the social sciences and English. For example, literature is filled with infrequent terms used to convey precise meaning and emotional nuances. Unusual words and phrases are one reason that literature can transport us from the mundane world into more exciting realms. Yet there are steps that often can be used to gain the meaning of an unfamiliar word when a dictionary is not readily at hand.” (4) p83

The turning point it appears for the GAP program is how they’re able to train teachers to move across disciplines once they know their own discipline extremely well.

“...what they need to know is, “what pedagogical principle do I need to use in order to teach my discipline effectively to my students?” “Yet any current effort to teach pedagogy in abstraction or in isolation will only fail as it has in the past. If pedagogy is taught in this way, it will remain out there with no real value.” (5) p88

The value of this new way of training their teachers is the concept of the “new and valuable.” Conceptually it means carrying the teacher into a new discipline to acquire a fresh view of gaining knowledge and using that skill to adapt it to their teaching of their own discipline. Also Drs. Hughes, Khatri and Brown seek to have the teacher cross walk between disciplines when working in math and physics. They use the GAP method to teach English, grammar and reading, which are both keys to the study of math and science. Consequently, there is a boost in all of the converging disciplines that define the basic skill sets.

What Doctors Hughes and Khatri have done in my estimation is to create a minor revolution, a major miracle, in the presentation, the content, and the innovation around teaching and learning, particularly for students who come from poor and low-income backgrounds and who have not been prepared well for entry into college work. Their groundbreaking work at the University of the District of Columbia should be a model used throughout the Thurgood Marshall college system, but also throughout the nation. First, it should be brought to scale beyond the walls of the University of the District of Columbia. It is important to note that this is happening at one of our urban land grant schools. A breakthrough has been made that can absolutely revolutionize how we teach our students and train our faculties to come to grips with closing this gap that is the harbinger of education discussions today.

The total implication of their work is that not only do students improve dramatically allowing them to pass their math and science courses, but they also improve dramatically in other subjects, particularly in English, literature, and the social sciences simply because these professors have learned how to cross walk learning between the sciences and the social sciences to create a holistic concept for learning.

This program, of course, can be deepened, and widened, and expanded; the kernel of truth involved in how physics and math can create learning in social science and literature is an amazing and astounding one. *Latest evaluation data - <http://www.onlinethinktank.com/beta/documents/GatewayAcademic.pdf>.*

Consilience

Professor E.O. Wilson of Harvard University, an American biologist and Pulitzer Prize winner is world renowned, and in some instances, considered controversial. But his work on Consilience is important to this issue paper. One of the highest priorities of educational reform is teacher quality and closing the education pipeline. In one program, in one TMCF school, we may have an answer to how this may be done. Professor Wilson of Harvard might call what Professors Khatri, Hughes, and Brown have done, CONSILIENCE - - Professor Wilson is a proponent of the merging of academic disciplines to create a pedagogical set of pathways that go to the heart of learning, and that this learning is characterized by the kind of work that Khatri,

Brown, and Hughes are doing. Professor Wilson's idea that one can understand the world of knowledge through combining of various disciplines to understand fully the magnitude and the continuum of knowledge itself opens up a whole new vista for how we deliver education to all learners. Because of the tremendous explosion of new knowledge it is certainly an idea worth pursuing.

Summary

The TMCF network of institutions should build on the work on the GAP program and the work of Professor Wilson at Harvard. This ideal restructuring for curriculum development and pedagogical instruction can be, with great study and care, the hallmark of new education research and application. It might prove to be the ideal way of repositioning how one learns in the 21st century. This is indeed a tremendously important field of study. It would give the TMCF professors a valuable platform upon which to work to create and to envision an academic future that supports the growth and development of not only African-American students, but all students. *Latest evaluation data - <http://www.onlinethinktank.com/beta/documents/GatewayAcademic.pdf>*

NOTES

1. Diane Ravitch, *The Death and Life of the Great American School System: How Testing and Choice are Undermining Education*, Basic Books, NY 2010 pp 223-224
2. Ibid p. 225
3. Daryao S. Khatri and Anne O. Hughes, *American Education Apartheid - - Again?*, The Scarecrow Pres, Inc., Lanham, Maryland and Oxford, 2002, p. 82
4. Op. Cit p. 83
5. Ibid p. 88