TAPESTRY OF TALENT:

Educating North Carolina's Gifted and Talented for the 21st Century












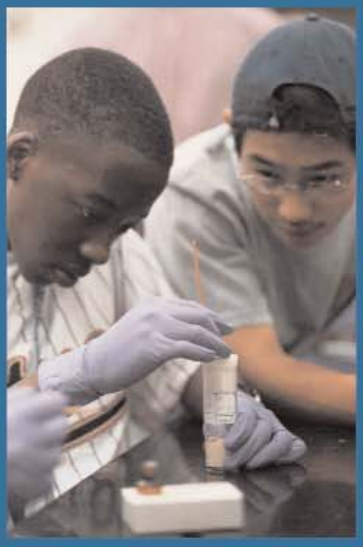


Edited by
Kristen R. Stephens, Ph.D.
Duke University
Talent Identification Program

Duke University Talent Identification Program
1121 W. Main Street
Durham, North Carolina 27701
919.668.9100
www.tip.duke.edu

North Carolina Association for the Gifted and Talented
P.O. Box 899
Swansboro, North Carolina 28584-0899
919.326.8463
www.ncagt.org

TABLE OF CONTENTS

ACKNOWLEDGMENTS

The information compiled for this publication represents the work of many individuals. The following people either contributed content or reviewed drafts and provided thoughtful insight towards the completion of this project.

Jim Brooks
Wake County Schools

Mary Ruth Coleman
University of North Carolina at Chapel Hill

Sneha Shah Coltrane
University of North Carolina at Chapel Hill

James Gallagher
University of North Carolina at Chapel Hill

Margaret Gayle
American Association for Gifted Children at Duke University

Wesley Guthrie
North Carolina Association for the Gifted and Talented

Laurene Madern
North Carolina Association for the Gifted and Talented

Martha Putallaz
Duke University Talent Identification Program

Brenda Romanoff
University of North Carolina at Charlotte

Laura Snyder
North Carolina Department of Public Instruction

Kristen Stephens
Duke University Talent Identification Program

INTRODUCTION

Plato said, "What is honored in a country will be cultivated there." Most would agree that we should honor excellence in all students. However, a pervasive and unsubstantiated belief that our highest achievers will make it on their own, without any additional resources or special instructional accommodations, continues to prevail. While the No Child Left Behind Act (NCLB) serves to ensure that we do not leave any child behind, we also do not want to hold any child back. For if we do, it is quite possible that potential talent could be lost to society.

North Carolina must become more adept in cultivating our talent pool to ensure that we are equipped with the brainpower to tackle the issues of the 21st century and beyond. Devoting resources for the education of our brightest students, is an investment that is sure to reap enormous economic and social dividends in the years to come.

In order to explore ways in which we can better nurture talent in our state, a distinguished group of North Carolina educators and experts on giftedness were brought together in September 2006 to begin work on this white paper. Six critical areas that challenge state and federal policymakers daily were identified and discussed:

1. Education,
2. Business and Industry,
3. Healthcare,
4. Immigration,
5. Class Society, and
6. Homeland Security.

This white paper will detail gifted education's contribution to each of these important areas and serves to raise awareness among policymakers, so the educational needs of our brightest students will not be forgotten in North Carolina.

EDUCATION

In 2005-2006 there were approximately 1.3 million students enrolled in K-12 public schools in North Carolina. About 148,000 (11%) of these students were identified as academically and/or intellectually gifted. Out of the $6.8 billion the state allocated for education in 2005-06, a mere $53,503,260 was allocated for gifted and talented programs. This represents about a $361 investment per year, per gifted child. We can, and should, do better.

No Child Left Behind

In 2004, the U.S. Department of Education granted the Education Commission of the States (ECS) $2 million to track state progress toward implementation of NCLB. Although the focus of NCLB has been on low performing students, one of the recommendations made by the Commission was for states to ensure the performance growth of *all* students. Having the Commission acknowledge the need to improve the performance of *all* students is crucial to the gifted and talented, because in response to NCLB, many states have all but forgotten the needs of their brightest students as they concentrate on raising the achievement levels of low-performing students. In *Education Week* Carol Ann Tomlinson, former president of the National Association for Gifted Children (NAGC) stated, "The No Child Left Behind Act, with its focus on proficiency rather than academic growth, enhances the likelihood that this broad swath of learners [proficient students] will be all but irrelevant in daily classroom planning."

The law's accountability requirements are based on Adequate Yearly Progress (AYP), which measures the yearly progress of different groups of students at the school, district, and state levels against yearly targets in math and reading. Student groups include:

1) Whites;
2) Blacks;
3) Hispanics;
4) Native Americans;
5) Asians;
6) multiracial students;
7) economically disadvantaged students;
8) limited English proficient students; and
9) students with disabilities.

Gifted students are not one of specific groups being investigated, as they tend to meet grade level proficiency targets. However, regardless of their proficiency level, gifted students may still not be making individual growth from year to year. If the performance growth of gifted students were assessed from year to year, perhaps it would confirm that gifted students do not do fine on their own. In fact, such an investigation might reveal that our gifted students are actually losing ground and not making the yearly progress they should.

Highly Qualified Teachers

One way to ensure the development of gifted students as well as *all* students is to enhance the quality of instruction they receive in the classroom. However, most classroom teachers and school administrators have very little or no training in meeting and identifying the unique learning needs of gifted students. Research in 1993 indicated that most teachers use one lesson plan to teach all the students in their classrooms, even when such students are a broadly diverse group. Ten years later, this one-size-fits-all approach remains, despite the fact that we know it is ineffective in meeting the individual learning needs of students (Archambault, Westburg, Brown, Hallmark, Emmons, & Zhang, 1993; Westburg & Daoust, 2003).

EDUCATION

North Carolina is poised to develop innovative models for training teachers of the gifted. As of July 1, 2006, the North Carolina Department of Public Instruction (NCDPI) has mandated that teachers take a minimum of 12 semester hours of coursework in gifted education at an approved institute of higher education (IHE) to obtain gifted licensure. In response to this unfunded mandate, approximately 10 colleges and universities have begun offering the essential coursework needed to obtain this licensure. This affords promise; however, the demand for such licensure is great, and some teachers are unable to access existing programs due to their location or limited finances.

With such limitations, North Carolina runs the risk of not equipping our teachers (and our schools) with adequate training, despite the interest in and desire to obtain such training. While IHEs must work to meet the emerging need for licensing teachers of the gifted, funds and other resources must be made available to schools of education at colleges and universities throughout our state to encourage, support, and sustain licensure programs in gifted education, so such programs are accessible to all.

After completing 12 semester hours of graduate-level coursework and obtaining gifted education licensure, teachers receive no financial incentive from the state or their respective school systems. If such an incentive was available, perhaps more teachers would seek such training, thus more gifted students would have the opportunity to be appropriately served. Furthermore, it is clear that the instructional strategies and best practices for gifted students are being increasingly adopted and implemented for use with *all* students and are of potential benefit to *all* students, so such training could positively impact the learning experiences of many students.

BUSINESS AND INDUSTRY

Business and industry are key stakeholders in the education of North Carolina's youth. As stakeholders, these entities must do more to support schools in preparing our future workforce. We must capitalize on our most precious natural resource—our students—if we intend to have the best, most highly skilled work-force in America. Our schools are the wellspring of our future citizenship and ability to compete.

The Quiet Crisis

Business leaders have become increasingly aware that our state's and nation's public schools have failed to develop the types of skills and knowledge their employees will have to have in order for their businesses to be competitive in a global age. They are acutely aware of the economic growth made by other nations, particularly Pacific Rim nations, and they are attentive to the many types of data indicating America is facing a "quiet crisis"—the steady erosion of America's scientific and engineering base, and the concomitant loss in our capacity to innovate.

Decision makers that impact public education are either unaware or unconvinced of the potential benefits, both to gifted students and to society, that their full and unapologetic support would provide. By allowing these students to move at an accelerated pace, and providing the rigorous instruction and appropriate resources necessary to develop their talents, the time will be shortened and the likelihood increased that the "return on the dollar" spent on these students will be realized and magnified. By focusing our attention and resources on "raising the bar" for as many students as possible, while failing to also "raise the ceiling" for gifted and talented students, we may well accelerate the "quiet crisis" Thomas Friedman (2005), Ann Jackson (2002), and others have recently articulated.

Partnerships

Worldwide, businesses are all about developing talent, as it is in their best interest to do so. Subsequently, it would seem America's business sector would throw its full weight behind finding and supporting the development of talented individuals as far back into the pipeline as possible.

So, what can be done to turn things around for America, North Carolina, and individual communities? What can be done for gifted students to encourage the development of their talents and skills? The first step is to recognize the need for strong partnerships between business and industry and public schools. Our public schools have too many other immediate and pressing concerns that demand funding. By providing additional funding and other support for gifted programs, business and industry will help to ensure its own well being in the long term.

The economic futures of North Carolina and its young people are yet unwritten. Without a long-term collaborative effort between our state's business and industry leaders and our state's educational leaders, the education of our brightest and most innovative minds may be a second-order education, and our one-time economic prosperity a distant memory. There are many forces pulling us toward an undesirable future in which our state's major export may well be its brains and youth, but there is still time to change direction.

HEALTHCARE

It is evident that efforts to improve North Carolinian's health in the 21st century will be influenced by important changes in our state's demographics. North Carolina, as is the nation, is growing older and becoming more racially and ethnically diverse. In addition, there are dynamic relationships between health and income, education, race and ethnicity, cultural influences, environment, and access to quality medical services. Even with our brightest minds on the task today, health disparities among populations within our state still exist.

In order to pinpoint disparities in healthcare and improve the overall health of our citizens, North Carolina will need to cultivate a multitude of talent. We will need individuals with expertise in instrument design, statistics, and other research methodologies. Creative problem solvers, expert debaters, and policy developers will also be required. In addition, leaders who are adept in bringing groups of individuals together in support of a common cause will be critical. So, where do we find such individuals? Many are sitting in classrooms throughout our state, and we need to appropriately nurture and respond to their unique educational needs today so these students will be in the position necessary to address and resolve the healthcare issues of tomorrow.

As our population grows, we will also need more healthcare providers. Where will we find our future cardiologists, oncologists, pediatricians, and neurologists? Many of these individuals are also sitting in classrooms throughout North Carolina waiting for the rigorous and challenging curriculum that they are ready to learn. As they sit, some will persevere into college and through medical school, ultimately reaching their desired goal despite the lack of adequate programming to meet their needs. However, there will be others who will never realize their potential. They will lose interest, become frustrated and unmotivated from the lack of challenge their school curricula provides them. They will become lost talent, but what will the real loss be to society? It is quite possible that cures for diseases will be lost, medical interventions with the potential to save thousands of lives will never be known, and a future Nobel Prize Laureate will vanish.

Where will the next major scientific discoveries come from and how may they change the future of society? New scientific innovations do not materialize haphazardly, they require intellectual fermentation. Policymakers, parents, teachers, school administrators, and engaged citizens are encouraged to advocate for supplying our young minds with the academic rigor needed in order to advance our knowledge. Such advancements provide a foundation for great ideas and discoveries to emerge—discoveries that have the potential to change society for the better.

IMMIGRATION

North Carolina's immigrant population increased by 274 percent between 1990 and 2000, with our state gaining almost 315,000 immigrants. Compounding the growth in our immigrant population, the U.S. Census Bureau projects that North Carolina's total population will increase by 20 percent between the years 2000 and 2025 to 9.3 million—an increase of 1.3 million new residents. According to the Immigration and Naturalization Service (INS), North Carolina had the ninth largest illegal immigrant population in the country in 2000, with 206,000 illegal immigrants in residence. Legal and illegal immigration, for now and well into the future, will have a major impact on the state's infrastructure, especially in the overcrowding of schools and in the resources required in training teachers to educate such a diverse population.

The immigration issue impacts education in three critical areas:

1. the neglect of nurturing and developing the potential of all of our children including our most gifted and talented, regardless of their citizenship;

2. the "brain drain" of foreign students who have studied in our best universities and who are returning to their native countries to work possibly in American jobs that have been out sourced; and

3. the new work and study visa policies, since 9/11, that have restricted our talent pool, inhibiting the best and the brightest from coming to America from around the world.

All three of these areas are important to consider, but the area that could make the most difference for the U.S. is the one that our government and policymakers have the most control over—nurturing the potential of *all* of our children to be the best in the world.

Nurturing Potential

The limited number of underrepresented minority students found in statewide AIG programs is proof that there is something seriously amiss in the early nurturing, screening, identification, and placement of these underserved students in AIG programs and/or advanced studies programs. *The Darity Report* (Darity, Castellino, & Tyson, 2001) outlined recommendations that would help meet the state's mandate to increase the number of underrepresented populations into gifted education, but over the last ten years the numbers have not increased for minority students (See Appendix 1).

North Carolina's local school districts will revise their plans for identifying and serving gifted children in 2007, using a new rubric that is designed to help increase the number of identified students from underrepresented groups and to improve the services they receive. The North Carolina Department of Public Instruction should be given more authority to ensure that plans submitted by school systems within our state are not “paper only” plans, but also are supported and effectively implemented. Presently, NCDPI can only make suggestions or comments regarding local plans for identifying and serving the gifted. There is no accountability and we cannot be assured that appropriate identification and services for our gifted students even exist across our state, even though we have a mandate in both areas.

Building and Maintaining a Talent Pool

On the national level, since 9/11, there has been an outcry from university presidents and corporate executives regarding visa policies that have restricted our country's talent pool from including the best and the brightest minds from around the world. New immigration policies are hindering foreign talent from entering our country to attend our universities while a "brain drain" of engineers and scientists that have studied at American universities are being sent back or are choosing to go back to their native countries to work. Sheryle Dirks, Director of the Career Management Center at Duke University's Fuqua School of Business, says due to visa shortages, some foreign students who would have preferred to work in the U.S., have been forced to fall back on their second choice, accepting jobs in their home country. Adding to the dilemma, American companies are setting up offices in India, China, and other foreign countries in order to meet their need for an intellectual workforce.

The future will belong to individuals and countries who understand that being smart is a good thing and that intellectual work will be required to invent solutions to the problems confronting our planet. Federal and state policymakers have an important role in creating this innovative environment by making the education of gifted and high achieving students a priority.

SOCIAL CLASS

Social class is a mixture of income, education, family history, and occupation. From this amalgam comes a cluster of experiences that sharply differentiates the upper, middle, and lower classes of America. While the "American Dream" suggests that, with hard work, determination, and an education, individuals from any class can be successful, there is an abundance of evidence linking social class status with educational opportunities, achievement, and life success. Social class remains one of the primary mediators determining an individual's access to many of life's opportunities.

Impact on Gifted Children

Social class can have many effects on gifted children. It often determines...

1. the likelihood of a child being identified as gifted. A disproportionately low number of children from economically disadvantaged families are identified.

2. who gets access to differentiated education and high-end programming that challenges bright students. This issue of access impacts students from kindergarten through college.

3. the method for engaging students in the curriculum. Schools tend to engage upper and middle class students leaving other students behind. This creates a climate of disengagement for some students who are then more vulnerable to dropping-out.

4. how gifted programs are structured within a school. Such programs are typically structured for the comfort and interests of middle and upper class students. This may create problems for others who may "opt-out" of the programs that they feel are not for them.

Strong general education programs for *all* students that provide challenging and meaningful learning experiences are essential and is the place where we must begin. Some students, however, will need additional support. Several approaches have been developed to mitigate the negative influences of social class on students who are gifted. These approaches often include:

1. Nurturing programs that begin with young children to enhance and develop their potential prior to formal identification.

2. Alternative identification protocols to reduce bias in the process, measures, and methods used to find gifted students.

3. Intensive academic support programs used to help support and level the playing field for gifted students from economically disadvantaged families.

4. Counseling support for students and families to help with academic and career planning.

5. Scholarship and award programs to provide financial aid to help students develop their gifts.

The availability of programs that use these strategies remains limited and so to date there are many students who do not have access to educational and life opportunities that would help them reach their potential.

It is hard to estimate what is lost to society when our students do not reach their potential. It is perhaps easier to think about the gain to society if we support the education of students who are gifted. Through this support we should ensure that excellent educational opportunities are available to all of our nation's children regardless of social class. By providing appropriate educational opportunities to all gifted students we can perhaps create a society where dreams come true and make a stronger America.

HOMELAND SECURITY

As the home to two of the largest military bases in the world, North Carolina plays a critical role in keeping our nation secure. Camp Lejeune Marine Corps Base in Onslow County maintains combat-ready units for expeditionary deployment, and Fort Bragg Army Base in Cumberland County is the principal U.S. army airborne-training center. A 2004 impact study revealed that North Carolina's military bases contribute $18.1 billion to the state's economy, twice as much as tobacco (North Carolina Advisory Commission on Military Affairs).

Since 9/11, our federal government and state leaders have worked together to lead an unprecedented effort to safeguard our country. Unlike other wars, the war on terrorism involves not only the employment of military power, but also the use of diplomatic and intelligence activities to protect our nation and its citizens. Gallagher (2005) has stated, "If we believe, or act as if we believe, that our national security depends on how many nuclear weapons we have stockpiled or how many divisions under arms we maintain, instead of our commitment to nurturing the intellectual resources of coming generations, we may well tremble for the future of our nation" (p. 40).

Foreign Language Learning

The future homeland security workforce will need advanced studies, in not only science, technology, engineering, and mathematics, but also religious philosophies and languages. As a result, the United States must expand foreign language education. The optimum time to begin learning a second language is in elementary school, when children have the ability to learn and excel in several foreign language acquisition skills (Curtain, 1990). In addition, foreign language study can increase children's capacity for critical and creative thinking skills, and children who study a second language show greater cognitive development in areas such as mental flexibility, creativity, tolerance, and higher order thinking skills (Curtain, 1990). North Carolina's students must be educated from a global perspective, with in-depth exposure to the languages, cultures, and history of other nations.

North Carolina can led the way for other states and begin the work necessary to enhance foreign language education programs for our students. Our educational system must prepare students for the complicated world they will inherit in the future.

Science, Technology, Engineering, and Math (STEM)

The report, *Road Map to National Security: Imperative for Change* (U.S. Commission on National Security, 2001) calls the deficiencies in American math and science education "threats to national security". The STEM fields play a critical role in protecting our nation from known and emerging threats. Our future workforce must have scientific, technical, chemical, biological, radiological, and nuclear expertise, as the war on terror is multi-faceted. How will we prepare our future workforce to address such security threats? Where do we find the talent to tackle such problems?

Federal and state governments, as well as private industry need to make a prolonged investment, not only in our present research infrastructure, but also in educational resources that will develop talent in STEM fields. Many bright students sit in our classrooms waiting for a challenging curriculum that will prepare them to solve such future problems for the benefit of society.

RECOMMENDATIONS AND CONCLUSION

Our gifted youth today will become the gifted adults of tomorrow, providing us with a firm, competitive edge. These bright minds will develop the new products, cures, and innovations for the future benefit of society. In order to ensure that North Carolina is prepared to prosper in the 21st century and beyond, this white paper proposes four recommendations:

1. School systems across North Carolina should conduct a yearly performance growth assessment of gifted students to ensure that they are making progress each year in realizing their potential.

2. Funding should be appropriated to establish and sustain college and university-based AIG licensure programs, as well as provide financial incentives for teachers who complete the 12 hours of graduate credit required to obtain such licensure.

3. Early nurturing programs should be developed statewide to cultivate and enhance the potential of *all* young children, thereby increasing their chances of being appropriately identified for gifted and talented services and ensuring that their educational needs are optimized.

4. North Carolina's business, industry, and military sectors should increase their support and forge strong partnerships with school systems to ensure our most innovate minds are equipped for the jobs of the future.

Eric Hoffer, an American writer stated, "In a time of drastic change it is the learners who inherit the future. The learned usually find themselves equipped to live in a world that no longer exists." It is evident that in the midst of constant societal and global change, we must create a community of life-long learners, not just educated individuals. To encourage life-long learning, we have to engage all students in learning, and make sure what and how they learn is relevant to their lives, interests, and abilities, so they will want to continue to learn.

We must also encourage and support students as they venture beyond the content they are presented in schools into the realms of critical and creative thinking and reflection. The processes of engagement, intensive study, and rumination will serve as the foundation for an evolving and progressive society. Memorization of facts (those things already known) and proficiency on multiple-choice tests will not guarantee advancement in any human endeavor. It is the revelation of the presently unknown and the application of this new knowledge to authentic situations that will advance our world.

While North Carolina has many education "firsts" to be proud of, including the first state-supported, residential math and science high school, we must continue to be innovative and lead the way in educational excellence. Our future leaders, innovators, and problem-solvers must be appropriately nurtured and stimulated, so that our state continues to prosper across all areas of endeavor. Governor Easley (2006) has emphasized this point by stating: "As we prepare students for jobs, we have to build more knowledge, talent, and skill to succeed in the 21st Century…America's competitive edge in the economy is creativity and innovation. Those states that invest in education will prosper. Those who do not will fail."

REFERENCES

Archambault, F. X., Jr., Westberg, K. L., Brown, S. W., Hallmark, B. W., Emmons, C. L., & Zhang, W. (1993). *Regular classroom practices with gifted students: Results of a national survey of classroom teachers* (Research Monograph 93102). Storrs, CT: The National Research Center on the Gifted and Talented, University of Connecticut.

Curtain, H. (1990). *Foreign language learning: An early start*. Washington, DC: ERIC Clearinghouse on Languages and Linguistics. (ERIC Document Reproduction Service No. ED328083)

Darity, W., Castellino, D., & Tyson, K. (2001). *Increasing opportunity to learn via access to rigorous courses and programs: One strategy for closing the achievement gap for at-risk and ethnic minority students.* Report prepared for the North Carolina State Board of Education, May 2001. Retrieved October 11, 2006, from www.ncpublicschools.org/docs/racg/resources/increasingopportunities.pdf

Easley, M. (2006, February). *North Carolina's high school reform efforts.* Presentation at the National Governor's Association Meeting. Washington, DC.

Education Commission of the States. (2004). *ECS report to the nation: State implementation of the No Child Left Behind Act.* Denver: Author.

Friedman, T. (2005). *The world is flat: A brief history of the 21st century.* New York: Farrar, Straus and Giroux.

Gallagher, J. (2005, May 25). National security and educational excellence. *Education Week, 24*, 32-33, 40.

Jackson, A. (2002). *The quiet crisis: Falling short of producing America's scientific and technical talent.* San Diego, CA: BEST. Retrieved October 16, 2006, from http://www.bestworkforce.org/PDFdocs/Quiet_Crisis.pdf

National Center for Public Policy and Higher Education. (2004, April). Educational pipeline: Big investments, big returns. *Policy Alert*. San Jose, CA: Author. Retrieved October 11, 2006, from http://www.highereducation.org/reports/pipeline/pipeline.pdf

North Carolina Advisory Commission on Military Affairs. (2004). *North Carolina statewide military impact study.* Retrieved October 27, 2006, from http://www.nccommerce.com/publicaffairs/Military_Impact_2004.pdf

North Carolina Department of Public Instruction (NCDPI). (2006). *Data and Reports.* Retrieved October 5, 2006, from http://www.dpi.state.nc.us/fbs/resources/data/

Tomlinson, C. (2002, November 6). Proficiency is not enough. *Education Week, 22,* 36, 38.

U.S. Immigration and Naturalization Service. (2003). *Estimates of Immigrant Populations 2003.* Office of Policy Planning.

Westburg, K. L. & Daoust, M. E. (2003, Fall). *The results of the replication of the Classroom Practices Survey: Replication in two states.* The National Research Center on the Gifted and Talented Newsletter. Storrs, CT: The National Research Center on the Gifted and Talented, University of Connecticut.

APPENDIX

Table 1. AIG Headcount Data by Year and Race/Ethnicity

Race/Ethnicity	School Year							
	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Asian	2%	2%	2%	2%	3%	3%	3%	3%
Black	8%	10%	10%	10%	10%	10%	10%	10%
Hispanic	0%	1%	1%	1%	1%	1%	2%	2%
Native American	0%	1%	1%	1%	1%	1%	1%	1%
Multi-Cultural	0%	0%	1%	1%	1%	1%	2%	2%
White	89%	86%	85%	85%	84%	84%	82%	82%
Total No. AIG	94,009	135,094	143,501	135,495*	141,303	146,911	148,607	150,689

*Nurturing removed by LEA's