

The Update

Summer 2013



Equity in STEM Talent Development for Ethnic Minority Students

by

Kristina H. Collins, Dawn Curry, Kathleen Marks, and Tarek C. Grantham, Ph.D.

Public school principals and teachers are devoting increased attention to Science, Technology, Engineering, and Mathematics (STEM) talent development in direct response to the current economic struggles in America and the future reality that students must be better prepared to maximize their academic potential and career contribution, and to compete with students from around the world (Adams, Chamberlin, Gavin, Schultz, Sheffield, & Subotnik (2008).

At the President's Council of Advisors on Science

and Technology, Arne Duncan (2009) commented, "we need teachers who have the deep content knowledge of the STEM fields and the passion for teaching our children to prepare them to be the next generation of engineers, scientists, mathematicians, and leaders for technological innovation . . . Most of our scientists and most of our STEM teachers are being recruited from a narrow segment of our population. We must find a way to include the people who represent the sum of our nation's population. If we can tap into the diversity of

America, we can bring fresh ideas and perspectives and perhaps new inventions to our world."

STEM Career Growth

STEM careers are considered the most notable growth industries in the United States. The U.S. Department of Labor Bureau of Labor Statistics (2012) reported computer and mathematical occupations accounted for 3.5 million jobs in 2010 with a projected growth of 778,000 new jobs by 2020; that represents a 22% growth from 2010 and 130% of the 2006 employment in the same field, making it the sixth-fastest

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growing major occupational area. Similarly, architectural and engineering occupations are expected to add 252,800 new jobs between 2010 and 2020; and healthcare practitioners and technical occupations are expected to have more growth than any other occupational group, adding 2 million new jobs as the third fastest growing occupational area.

STEM talent development is critical for all students (Adams, Chamberlain, Gavin, Schutz, Sheffield, & Subotnik, 2008), but it is particularly important for ethnic minority students. Public schools are more racially diverse, and it is critical that principals and teachers proactively focus on equity while engaging efforts to promote excellence in STEM talent development. President Barack Obama (2013) advocated for a more diverse STEM talent pool, focusing on under-represented groups, highlighting the importance of equity and excellence in STEM programs.

Promoting Equity and STEM Engagement

Principals and teachers must work collaboratively with parents of under-represented students to promote change and nurture engagement in STEM at home and in the community. Educators can use Grantham's & Henfield's (2011) recommendations for parent involvement among gifted ethnic minorities (GEMS) in STEM experiences by encouraging pre-collegiate STEM engagement, STEM accessibility and STEM responsibility in parents.



STEM Engagement. In this type of parent involvement, principals and teachers can work with ethnic minority parents to promote spending protracted one-on-one interactive time with their children in STEM activities (e.g., *partner reading STEM-oriented books, supervising STEM homework, celebrating STEM accomplishments, STEM visitations and excursions*).

STEM Accessibility. This type of parental interactions with a child is less intense than that of engagement. Rather than direct interaction with the child, ethnic minority parents are merely in close proximity or available to the child and other parents or teachers working directly with the child (e.g., *STEM event or Competition Volunteering at school, STEM Teacher letter writing/emailing*).

STEM Responsibility. This type of parent involvement is associated with the degree to which parents take responsibility for their child's basic needs. Much of the time spent on these tasks does not involve direct interaction with the child. When knowledge among teachers about inequity in pre-collegiate involvement and preparation in STEM fields may be limited, parents of GEMS can assume responsibility to be a community liaison (e.g., *serve as a STEM community resource guide, create STEM networking among GEM parents, pursuing STEM scholarship and grant writing*).

Engaging Exemplary Equity Initiatives in STEM

One such effort to support principals and teachers in their efforts to promote STEM talent development was the 2013 Mary M. Frasier Equity & Excellence STEM Talent Development Conference & UGA Campus Visit. The theme of this event, *Preparing Educators for Minority Student Talent Development in STEM*, brought in 300+ participants from Georgia public schools. Middle and high school students and educators from Cobb, Dekalb, Forsythe, Newton, Rockdale, and Clarke counties attended, including several homeschoolers. The event aimed to encourage minority students and their teachers to the University of Georgia and educate them about pathways to undergraduate education and careers in STEM.

The day began with a welcome from UGA leadership and a keynote on STEM talent development by Associate Professor of Math

and technology to kinesiology and entomology to physics and astronomy to engineering and journalism. Mid-day, students and educators enjoyed lunch inside Sanford Football Stadium, and for the afternoon, concurrent sessions focused on preparation for undergraduate STEM education. Participants chose from sessions that featured STEM specific departments, admissions, financial aid, and STEM Scholar Programs. After a full day of exploring STEM at UGA, students, educators, and parents gathered to hear from a closing panel of undergraduate STEM students at UGA facilitated by Dr. Dorothy White. Overall, the 2013 Frasier Conference for STEM Talent Development was a great success in igniting minority student interest and excitement for STEM education.

Principals and teachers can identify proactive units within universities, such as the College of Education's Office of Outreach and Engagement and the Office of Institutional Diversity, with whom they can partner to facilitate out-of-school pre-collegiate exposure to STEM (Adams, Chamberlain, Gavin, Schutz, Sheffield, & Subotnik, 2008). Universities have an outreach mission and can offer a variety of STEM experiences such as the 2013 Frasier Equity and Excellence STEM Conference and UGA Campus Visit to positively impact under-represented students' attitudes and perceptions towards STEM fields (Nadelson & Callahan, 2011) and *self efficacy* - confidence (Fantz, Siller & Demiranda, 2011). Table 1(next page) lists resources and information that parents, STEM teachers, and principals can share and jointly pursue on behalf of GEMS. The sooner students from under-represented groups are given the opportunity to engage in the world of STEM, the sooner they are able to cultivate a STEM identity that can empower them to maximize their potential and participate more fully to contribute their gifts and to meet STEM demands of the future. Together, principals, teachers and parents can make sure GEMS are not overlooked, but involved in STEM enrichment and acceleration pre-collegiate programs.

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**Table 1. Sample Pre-collegiate STEM Programs
and Scholarships for Ethnic Minority Students
(Source: Grantham & Henfield, 2011)**

Example High School STEM Programs	
• Naval Academy	http://www.usna.edu/Admissions/stem.html
• Leadership, Education, And Development (LEAD)	http://www.leadprogram.org/
• National Society of Black Engineers (NBSE) Pre-College Initiative	http://www.nsbe.org/
• Meyerhoff Scholars Program	http://www.umbc.edu/meyerhoff/
• Southeaster Consortium for Minorities in Engineering	http://www.secme.org/home/overview.html
Example Middle School STEM Programs	
• Massachusetts Institute of Technology (MIT) – STEM Summer Institute	http://web.mit.edu/stem/STEM_Home.html
• Architects, Construction managers and Engineers (ACE) – Mentor Program	http://www.acementor.org/
• The Harris Foundation – Summer Science Camp	http://www.theharrisfoundation.org/
• Center for Talented Youth (CTY)	http://cty.jhu.edu/summer/summer-programs.html
Example STEM Associations, Gifted Associations and Scholarships	
• The American Association for the Advancement of Science	http://www.aaas.org/programs/education/#current
• National Society of Black Engineers Scholarships	http://www.nsbe.org/Programs/Scholarships/Scholarship-Vault.aspx
• National Action Council for Minorities in Engineering, Inc. (Teacher Grants)	http://www.nacmebacksme.org/NBM.aspx?pageid=29
• National Association for Gifted Children (See Parents, Summer Opportunities)	http://www.nagc.org
• Jack Kent Cooke Foundation – Young Scholars Program	http://www.jkcf.org/scholarships/young-scholars-program/
National Listing of Pre-collegiate STEM Summer Programs and Camps	
• Sloan Career Cornerstone Center	http://www.careercornerstone.org/pcsumcamps.htm



From the President...

Dear TAG Members,

Hopefully, you are enjoying the summer wherever you live. Summer is a time that we relish for its warmth and relaxed living.

The Association for the Gifted (TAG) is planning to usher in a new benefit for its members, and we welcome your ideas for other ways to make your membership in our organization (yours and mine) more meaningful. Please share your suggestions. Contact information for TAG board members is readily available at the TAG website [www.cectag.org].

TAG has a new website developed last fall, and Tracy Inman is the board member who updates the website regularly. She welcomes any suggestions that you make for what should be included on the website or ways to make it easier to use. The website will soon have a members-only section which will be another benefit to you as a member.

A current initiative is TAG Talks, podcasts on topics of interest in gifted and talented education. The majority of these will be available only to members. The first two podcasts, however, are already available on the main page of the website. Dr. Claire Hughes talks about twice-exceptional children on one podcast, and Dr. Cecelia Boswell describes the essentials of a magnet school on another podcast. TAG members and board members will make other TAG Talks, creating a rich source of information of benefit to TAG members. If you would like to make a TAG Talk or suggest one, please email me (julia.roberts@wku.edu). TAG Talks are approximately 20 minutes in length and provide the opportunity to hear someone with experience in a topic talk about it.

Another way to stay current with TAG and gifted education is to be a friend of TAG on Facebook. That is a quick way to know what is going on in gifted education and in CEC and TAG.

TAG hosts a conference in the fall, and this year that conference will be September 6 at Western Kentucky University in Bowling Green, KY. TAG board members will make presentations at the one-day conference that will focus on the social-emotional needs of gifted children, including those who are twice exceptional. This conference coincides with the TAG board meeting the following day. Information about the TAG Conference will be available on the website and in the next *TAG Update*, but you could mark your calendar now.

Share information about TAG with your colleagues and stay up to date. TAG recognizes that children with gifts and talents are truly exceptional children and wants to work with you to see that these exceptional children have ongoing opportunities to learn and thrive in school and out.

Best Wishes,

Julia Link Roberts

President, TAG

The Association for the Gifted Fall Workshop: Diversity and Developing Gifts and Talents

September 6, 2013

Western Kentucky University, Bowling Green, KY

Educators and parents will explore the unique population of gifted learners who have a disability or who come from backgrounds frequently underrepresented in gifted programming.

Members of the TAG Board will be the session presenters.

The specific topics and names of presenters will be available soon on the TAG website. An application form will also be found there in the near future.

From the Editor...



Dear TAG Members,

Happy summer! In this newsletter, you will find columns by Claire Hughes and Kim Hymes. You will also see pictures and information from the 2013 CEC Convention held in San Antonio in April.

The lead article was written by four authors from the University of Georgia. In this piece, they discussed equity in STEM talent development for minority students. They described the 2013 Mary M. Frasier Equity & Excellence STEM Talent Development Conference and UGA Campus Visit, which could serve as a model for developing similar programs.

We have included preliminary information about the TAG Fall Conference being held at Western Kentucky University in Bowling Green, Kentucky. We hope that you will be able to join us there!

Best regards,

Kimberley L. Chandler

TAG Newsletter Editor

Double Lines

Double (and Triple) Limbo

By Claire E. Hughes, Ph.D.

You might have noticed that Congress is frozen. We are caught in a time unlike very few others in history in which the government has deadlocked on almost every initiative. But while Congress can manage to pass laws that affect air travel, there are three major initiatives stuck in committee that are directly affecting twice-exceptional children quite significantly in schools.

The Individuals with Disabilities Education Act (IDEA) was supposed to be reauthorized in 2011. It is a law, originally Public Law 94-142, started in the 1970's, and designed to be revisited every seven years. Every time it has been rewritten, there have been numerous changes that affected education and parents and students. The last time it was reauthorized was 2004 and perhaps one of the most significant changes to come out of that law was the use of Response to Intervention. RTI, as it's known, has had significant impacts on the identification of twice-exceptional students by focusing on matching instruction to student needs. There are entire sections in books now, such as the Pereles, Baldwin & Omdal (2011) and Adams, Yssel & Anwiler (2012) chapters that focus on how to make RTI work for identifying twice-exceptional students. Needless to say, the reauthorization changed the landscape of education quite considerably. It's now 2013 and IDEA still remains unchanged-two years overdue.

The second major educational initiative that remains frozen is the reauthorization of the Elementary and Secondary Education Act (ESEA). Included in that draft is a program called the TALENT Act. The TALENT Act is an effort to work with current educational initiatives and the climate of educational change and accountability. As someone I overheard once said "This administration has not met an accountability factor it doesn't like". As you can read elsewhere in this newsletter in Kim Hymes' article, the TALENT Act focuses on teachers as the change agents and the persons directly responsible for identifying and serving gifted students.

The third element of the frozen legal landscape that so directly impacts twice-exceptional students is the suspension of the No Child Left Behind Act, in which schools and students had to meet a minimum expectation. In the vacuum that has been left, many states have adopted the "Race To The Top (RTTT)" program that has, at its cornerstone, the adoption of a growth model in which all students have to make a certain amount of growth, rather than meeting a specific standard. While most states have not chosen to include gifted students in this

accountability formula, the emphasis is shifting from “one size fits all” to differentiation and accountability for individual growth. However, these policies are not law and are waiting- in limbo- for legal structures.

What all of these laws have in common is increased responsibility for, while emphasizing the accountability of, teachers. All of these laws have significant impacts on twice-exceptional students, whether it is identification of their strengths, emphasizing their growth, using classroom data to determine areas for remediation and focus, or providing emotional supports to parents through the understanding of a label. By having laws and policies that support students and parents, children are better served.

So, as Congress meets and continues to meet and continues to meet, twice-exceptional children are caught in this web of frozen laws that affect both children with special needs and gifted students. Please reach out to your Senators and Representatives and urge them to get our children out of this logjam of legal limbo.

CEC’s Legislative Action Center (<http://capwiz.com/cek/issues/alert/?alertid=62497466>) has a pre-written email that you may send off to your Senators, however, we hope you will call your Senate offices to personally ask them to co-sponsor the TALENT Act, work on IDEA, and develop the ability of our twice-exceptional students- our students who are so affected by so many laws, and yet so unrecognized by so many people.

References:

- Adams, C.M., Yssel, N., & Anwiler, H. (2013). Twice-exceptional learners and RTI: Targeting both sides of the same coin. In M.R. Coleman & S. K. Johnsen (Eds). *Implementing RTI with gifted students: Service models, trends and issues*. Waco, TX: Prufrock Press.
- Pereles, D., Baldwin, L. & Omdal, S. (2011). Addressing the needs of students who are twice-exceptional. In M.R. Coleman & S. K. Johnsen (Eds). *RTI for gifted students: A CEC-TAG educational resource*. Waco, TX: Prufrock Press.

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- ✓ Discounted member rate for all meetings of CEC and TAG
- ✓ 30% discount on all CEC products
- ✓ 10% discount in Prufrock Press Products
- ✓ Peer-to-peer support
- ✓ A network of colleagues who are leaders in gifted education

TALENT Act Charts New Course for Gifted, High-Ability Students

CEC-endorsed bill focuses on teacher development, closing the “excellence gap”

By Kim Hymes, CEC’s Director of Policy and Advocacy

In March, a bipartisan group of senators introduced legislation to shift the education debate in Washington, D.C., toward a focus on gifted, high-ability students—particularly those from low-income or minority backgrounds—who have been overshadowed in a federal educational system that concentrates on its struggling, low-achieving students.

Special and gifted educators are applauding the bill, the To Aid Gifted and High Ability Learners by Empowering the Nation’s Teachers (TALENT) Act, which, by amending the Elementary and Secondary Education Act (ESEA), would provide teachers, school districts, and states with the support needed to better identify and serve students with gifts and talents through increased professional development, addressing the national Excellence Gap, public transparency of student achievement data, and the development and dissemination of evidence based best practices in gifted education.

“CEC is pleased to endorse the TALENT Act, legislation that will impact millions of students and teachers nationwide,” said Dr. Christy A. Chambers, President of the Council for Exceptional Children (CEC).

“Too often, our society accepts the myths about students with gifts and talents, including that they will do fine on their own, even when research tells us the opposite is true,” Chambers said. “The TALENT Act serves as a wake-up call to our nation and our educational system to recognize this forgotten student population.”

The TALENT Act, introduced by Sen. Chuck Grassley (R-Iowa), Sen. Barbara Mikulski (D-Md.) and Sen. Robert P. Casey (D-Pa.), expands the focus of the reauthorization of ESEA.

The TALENT Act meets the needs of gifted and high-ability students in four key areas:

1. **Supporting Educator Development to Ensure Academic Growth for High-Ability Students:** The TALENT Act recognizes the critical role of teachers as the catalyst for learning and academic growth and as such seeks to expand professional development opportunities in gifted education pedagogy for teachers nationwide.
2. **Confronting and Addressing the National Excellence Gap:** The TALENT Act responds directly to recent research demonstrating a growing “excellence gap” at the top achievement levels between students from low-income or minority backgrounds and their more advantaged peers by emphasizing opportunities for students who are economically disadvantaged, English language learners, individuals with disabilities, and individuals from rural areas throughout the bill.
3. **Providing Public Transparency of Student Achievement Data:** The TALENT Act emphasizes the importance of paying attention to the highest performance levels in the accountability system, with an emphasis on closing the “excellence gap”.
4. **Continuing Research and Dissemination on Best Practices in Gifted Education:** The TALENT Act recognizes that the expanding research in gifted education is the foundation for the success of our nation’s students with gifts and talents.

“America cannot afford to ignore the needs of its brightest students and, by doing so, squander their potential,” said Sen. Grassley. “Our legislation would make modifications to federal education policy in order to develop and encourage the high achievement that’s possible for so many gifted and talented students. By doing so, it would help to enhance the future prosperity of our nation.”

Sen. Casey concurred. “We must train our teachers to identify and encourage gifted and high-ability learners, particularly in underserved communities,” Sen. Casey said. “The potential of our children must be maximized for their sake and for the sake of our long-term economic growth.”

Joining her colleagues, Sen. Mikulski said, “As our nation continues to look at how best to create jobs, how best to sustain jobs and how best to support high-paying jobs, we must look at how best to educate the children who will make up tomorrow’s workforce. High-ability and high-potential students need to be engaged and held to high standards. By educating and preparing our students well, we will ensure that our nation’s brightest minds will get brighter each year and will not stagnate.”

Although there are approximately 3 million students identified as having gifts and talents in the United States, recent studies indicate an underrepresentation of students from low-income or minority backgrounds as top performers on statewide assessments and the National Assessment of Educational Progress, also called the Nation’s Report Card. Known as the “excellence gap,” this achievement discrepancy typically carries through a student’s educational career and beyond.

Urge your Senators to support the TALENT Act by visiting CEC’s Legislative Action Center:
<http://capwiz.com/cek/home/>

Learn more about the TALENT Act by visiting: <http://www.cec.sped.org/Policy-and-Advocacy/Current-Sped-Gifted-Issues/Gifted-and-Talented>

The TALENT Act is endorsed by the Council for Exceptional Children and the National Association for Gifted Children.

UPDATE AS OF JUNE 13, 2013:

(1) The Senate Education Committee has passed legislation to reauthorize ESEA and it includes key provisions of the TALENT Act!

On June 12, the Senate Education Committee passed the Strengthening America’s Schools Act of 2013, legislation that would rewrite the Elementary and Secondary Education Act, better known as No Child Left Behind. Included in SASA were numerous key provisions from the TALENT Act which would:

- (1) Support identifying , serving and ensuring appropriate learning gains of students with gifts and talents in Title I schools through educational approaches such as early entrance to kindergarten, enrichment, acceleration, curriculum compacting, and dual enrollment in secondary school and postsecondary education;
- (2) Include access to gifted education as an element of the Equity Report Card – a new initiative that focuses on educational opportunity;

- (3) Support continued research and development in gifted education including a national research center on the gifted and talented and demonstration grants; and
- (4) Activities that support addressing the needs of Native Hawaiian students and students who are homeless and who are gifted and talented

(2) The TALENT Act was introduced in the U.S. House of Representatives by Congressman Polis (D-CO) and Congressman Latham (R-IA), keeping up our bi-partisan approach!

Congressman Polis, a member of the House Education and the Workforce Committee and Congressman Latham will be leading the TALENT Act in the House!

On June 19th the House Education Committee started their debate on ESEA reauthorization. Stay tuned for more info to come!



CEC CONVENTION 2013



Award Presented at CEC Conference

At the 2013 CEC annual conference, The Association for the Gifted presented the outstanding service award to Dr. Gloria Taradash for her advocacy and dedication to gifted students from diverse backgrounds.

Dr. Cheryll Adams, past president of CEC-TAG, made the following comments when she presented the award to Dr. Taradash:

“This award goes to a woman who is beautiful and gracious inside and out. She has a big heart that encompasses all children of diversity, and she has advocated for these children, especially those with gifts and talents, for many years. She has held leadership positions in both CEC-TAG and NAGC. She has been both a Representative Assembly member of CEC and past president of CEC-TAG. It is my honor to present this award on behalf of TAG to Gloria for her leadership, service, and advocacy.”



Dr. Gloria Taradash, award recipient (left) and Dr. Cheryll Adams at award presentation.

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