# Increasing th CTE Teacher Pipeline

those in urban areas, are not as attractive as corporate positions.

Third, a large number of students in the United States lack the high-level math and science skills needed to prepare them for higher education and various CTE and STEM careers. Recent initiatives have been created to address this problem. U.S. Secretary of Education Arne Duncan recently awarded 16 colleges and universities approximately \$2.8 million in grant funding. The funding was issued to support higher level instruction in math and science to prepare minority students for scientific and technological careers as well as to strengthen science and engineering education overall. These funds will be provided via the Minority Science and Engineering Improvement Program, which supports tutoring for K-12 and college students, renovates labs and classrooms,

and improves faculty and curriculum development. Funding of this magnitude has great potential for meaningful outcomes; however, much more is still needed.

### Why Not Teach?

What do minority CTE professionals say keeps them from entering the teaching profession? Ernest Brooks III, an African American fraud systems analyst in Chicago, Illinois, was encouraged by his mother, a Chicago Public School teacher for 15 years, to serve as a substitute teacher. He enjoyed substituting in the Chicago Public School system where he taught a variety of subjects, including math and science; yet after five years, he utilized his degree in business administration and computer science to work for an international company. Brooks described how rewarding teaching was and said he

### **BY CYNTHIA SIMS**

great deal of attention has been given to the need for more minority teachers. This issue deserves serious consideration as the K-12 minority student population increases and the number of minority teachers does not. Minority students are usually more successful in classrooms when their teachers reflect their racial or ethnic groups, but minority teachers are beneficial to all students as their presence can help create an awareness of and appreciation for diverse populations.

The U.S. Department of Education has provided several reports on the shortage of minority teachers. Recommendations for increasing the minority teacher pool have included various pre-service and inservice programs and funding for teacher education programs designed to recruit and retain more minorities. Various states have implemented programs designed to recruit minority teachers, including teacher shadowing initiatives in South Carolina and grow-our-own programs in Minnesota. Although numerous other programs have been started to increase the minority teaching pool, few have focused specifically on recruiting and retaining career and technical education (CTE) teachers.

Several factors impact the likelihood that racial and ethnic minorities will enter teaching careers in CTE. First, in 2005, of the 939,000 two-credit occupational concentrators (high school graduates who earned two or more credits in areas such as agriculture and natural resources, business, health sciences, and computer/ information sciences), slightly less than 30 percent were black, Hispanic, Asian/Pacific Islander, and American Indian; more than 70 percent of the concentrators were white. This is also true for the 514,000 three-credit occupational concentrators. If a small percentage of minority students are pursuing CTE courses in high school, it is very unlikely that there will be enough



of this population to enter into CTE teaching positions.

Second, because of recruitment efforts to attract minorities into business and industry, few are willing to enter teaching positions. High school and college CTE graduates are enticed by recruiters who promise competitive salaries and benefits as well as future promotions. Lowerpaying teaching positions, particularly



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# The Enhancing Minority College and Career Preparation Service-Learning Mentoring Program (EMCCaP)

This program was designed and implemented by the author via a graduate-level course within the Department of Workforce Education and Development (WED) at Southern Illinois University Carbondale (SIUC).3 In 2006, five minority graduate students, with M.S. degrees in education from WED, mentored nine minority high school students in areas such as college selection; preparing for college admissions (studying for the ACT/SAT); time management and study skills; leadership development; and career exploration. The mentors brought the students together to study, and they also took them to meet professionals in the fields in which they desired to work.

The high school students were also required to complete volunteer activities with K-8 students (they passed out school supplies and played games with children at a community back-to-school bash). These relationships created an interest in youth development and teaching, as expressed by some of the graduate students and high school participants. Six of the nine students have since been admitted to college, and the youngest three students applied to college last fall; three of the nine are interested in becoming medical doctors. As college students, they have vowed to seek out opportunities to serve and possibly

Imagine how high engagement in teacher education could be if the entire focus of the mentoring program was preparing for the teaching profession in CTE, and the number of participants was significantly increased. The integration of service-learning mentoring into this course can be replicated by faculty in order to specifically focus on increasing minority representation in CTE, STEM and teacher education fields.

would love to teach again one day. When asked why he had not pursued alternative certification in order to teach, he stated that inflexible graduate programs that did not give "much credit [for] real-world experience" prevented him, and low teacher salaries were also a factor.

Jean Porter, also an African American,

once considered teaching while majoring in agribusiness at North Carolina Agricultural and Technical State University, but decided to pursue a career with the United States Department of Agriculture (USDA) after completing her master's in plant and soil science, with a concentration in agriculture education. A statistician with the USDA in Michigan, Porter credits job stability and a competitive salary as the main reasons for choosing industry over teaching. She also believes that schools lack the necessary budgets to secure the requisite materials and tools for effective teaching. "You must have chemicals, fertilizer, soil and other items to teach agriculture. Many schools do not have the funding to supply these things." Porter is still passionate about teaching, so she mentors minority students in the city of her alma mater and encourages them to pursue careers in CTE fields.

This passion for teaching is shared by Milt Haynes, an African American IT director at Abbott Laboratories in Illinois. Haynes, who taught community college students while working as an MIS director for Soft Sheen, said teaching is "in my blood." His great-grandmother, grandfather, and mother were all teachers of math, English, and ESL respectively. "Since I can't get paid enough teaching, I prefer to do it in my spare time. So, I do career coaching where I teach others how to find a job, develop their career, and any other best practices I can share. I've never stopped teaching!"

### Strategies to Increase Minority Teaching

The three aforementioned professionals are representative of others in CTE who

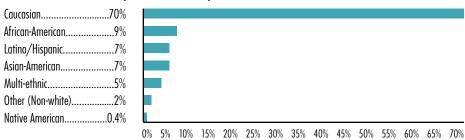
value teaching, but have limitations to full entry into the profession. If these are common barriers, CTE and STEM scholars and practitioners can develop strategies to engage minority professionals in teaching through the use of alternative methods such as creating more flexible alternative certification programs, developing opportunities for mentoring, and promoting community service.

### Alternative Teacher Certification Programs

Alternative certification programs help college graduates with non-education majors become teachers. Teach for America is a 19-year-old teacher preparation program that recruits college graduates from all backgrounds and career interests to commit to teach for two years in urban and rural public schools. AmeriCorps is a lead donor to Teach for America (it invested at least \$1 million in 2008), so participants receive the training and ongoing support similar to that of an AmeriCorps member; this includes student loan forbearance, stipends, and in some cases, transitional costs. Participants also receive assistance with the teacher certification process. There is a special call for math, science and engineering majors who can help address these gaps in low-income communities. Approximately 63 percent of Teach For America alumni remain in the field of education as teachers, principals, policy advisers, and

Teach for America works to increase the teaching pool and to prepare under-represented minorities in CTE subjects; however, the ethnic and racial diversity within the corps itself needs to be increased. Only 30 percent of the members in 2009 are from racial minority groups. The corps does have several initiatives established to help increase diversity and inclusiveness, *i.e.*, recruiting at Historically Black Colleges and Universities and Hispanic-Serving Institutions, linking with college/university student organiza-

### Ethnic and racial diversity in the 2009 corps<sup>2</sup>



tions, and building partnerships with national organizations like The National Council of La Raza and The National Urban League.

To learn more about Teach for America opportunities, please visit: http://www.teachforamerica.org/index.htm.

The Workforce Education and Development Department at Southern Illinois University in Carbondale, Illinois, offers an alternative certification program in the following CTE areas: agricultural education; business, marketing, and computer education; family and consumer sciences; health careers; and technology education (industrial technology). This program is marketed heavily to Chicago Public School teachers in urban areas, and they are granted a one-year nonrenewable provisional alternative teaching certificate, if they do not already have one, in order to teach and complete the course requirements simultaneously. In 2006, the first cohort of 20 students graduated and received their Illinois Type 09 teaching license. More than 50 percent of these students were minorities—thereby increasing the number of minority CTE teachers in the Chicagoland area.

To learn more about the Alternative Teacher Certification Programs in Career and Technical Education at Southern Illinois University Carbondale, please visit: http://wed.siu.edu/Public1/Graduate/MS/Alt\_Cert/index.htm.

## **Mentoring and Service Initiatives**

Mentoring offers similar benefits as teaching, especially when it is voluntary. Many

CTE professionals are able to provide information and share their expertise to help minorities develop an understanding of their fields. Blacks Gone Geek, for example, is an online community of IT professionals who serve as mentors and inspire a new generation of African Americans to consider and select IT careers. Haynes is the founder of this organization, which reaches out via social networking to promote education and attract other African Americans to IT fields. There are many opportunities to post questions, communicate with professionals, view job openings, and learn about workshops and training. Social networking is very relevant for youth and college students in the 21st century, so online mentoring is an excellent way to engage them in CTE fields. To learn more about Blacks Gone Geek, please visit: http://

# **blacksgonegeek.org/default.aspx**. Service-learning programs have the

potential to increase minority participation and success in teacher education, CTE and STEM. Service-learning, an increasingly utilized pedagogy, has been implemented at hundreds of educational institutions to address numerous community issues. The goals of service-learning are to integrate a service component into the curriculum to increase student learning, develop students' practical skills, and engage them in community problemsolving. In order to address the minority CTE teacher shortage, P-16 servicelearning mentoring can be utilized. Institutions of higher education can partner with high schools and middle schools to create service-learning mentoring programs that address the minority gap in CTE. Faculty in various departments can match their college students with minority elementary and high school students to mentor them regarding their specific disciplines.

The minority CTE teacher shortages should be addressed more intently by policymakers and teachers. Former CTE students who are currently professionals and teacher education students also have a civic responsibility to address the minority teacher shortage. If teaching is not feasible for CTE professionals, there are several outlets that should be explored that can still increase the pipeline of minority CTE teachers. The aforementioned programs and opportunities should be promoted, researched for effectiveness, and reproduced to ensure more minority CTE teachers are in classrooms to support and teach the increasing minority student population and to prepare them for 21st century jobs in career tech—including science, technology, engineering and math.

### **End Notes**

- National Center for Education Statistics. "Number and Percentage Distribution of Public High School Graduates Who Were Occupational Concentrators or Non-concentrators, by Race/Ethnicity, Sex, and Occupational Area of Concentration: 2005," http://nces.ed.gov/surveys/ctes/tables/h88.asp.
- 2 Teach for America (2009). "Diversity in the Corps," http:// www.teachforamerica.org/admissions/our\_commitment\_ to diversity.htm.
- 3 Sims, C. (2009). "Closing the Minority Gap in Science, Technology, Engineering, and Math (STEM) Fields by Utilizing Service-learning Mentoring." Illinois Committee on Black Concerns in Higher Education (ICBCHE) Journal, 25(1), 17-21.

### Cynthia Sims

is an assistant professor in the Department of Workforce
Education and Development at Southern Illinois University
Carbondale. She can be contacted at csims@siu.edu.



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