

# Newsletter of the CUNY Teacher Academy at BMCC

Summer/Fall 2007

Borough of Manhattan Community College of the City University of New York  
199 Chambers Street  
New York, NY 10007

## CUNY Renews Commitment to Science

The City University of New York designated the years 2005-2015 its "Decade of Science." The university's goal is to open the pipeline to science, mathematics, engineering and technology (SMET) fields by promoting scientific research, improving facilities, and encouraging students to study or teach in SMET areas.

So in addition to awarding first-rate scientific research, constructing and modernizing science facilities, opening a Graduate School of Public Health and promoting graduate and doctoral programs in the health sciences, CUNY has begun a Teacher Academy (TA).

The TA prepares talented and motivated students to become exceptional mathematics and science teachers in New York City middle schools and high schools. In 2006 the program began with a CUNY TA at Brooklyn College, City College of New York (CCNY), College of Staten Island, Hunter College, Lehman College, Queens College, and York College. With additional funding this year two CUNY two-year colleges, Borough of Manhattan (BMCC) and Hostos, initiated TA programs.

Each TA student will be carefully advised every term to take the appropriate courses and get tutorial assistance as needed to earn grades that will insure a place in the program. Upon graduation, BMCC TA graduates will transfer to the CCNY TA to complete the bachelor's degree.

The special training offered by the TA includes early fieldwork experiences in tutoring and teaching. Each student receives tuition support and commits to teaching a minimum of two years after graduation from a four-year college and earning appropriate teaching certification in mathematics or science.

## BMCC Teacher Academy Summer Activities

The BMCC TA Open House and Orientation were held June 26-27. The activities included three workshops focusing on characteristics of a good teacher, learning styles and peer-led team learning. During each of the following five weeks, additional workshops and readings were given on a variety of topics, including human development, communications skills, neurodevelopmental science, study skills, Bloom's Taxonomy and higher-level thinking.

The aspiring teachers also attended a Peer-led Team Learning Workshop Conference at CCNY on July 13-14. The group mingled with administrators, faculty and students from colleges all over the country. They reviewed many concepts and ideas discussed in their weekly Teacher Academy workshops and readings, such as constructivism, learning styles, teamwork, and

interpersonal communications. They participated in paired activities and group discussions. They also engaged in hands-on science exhibits set up and manned by peer leaders from the University of New Mexico at El Paso.

On Friday, July 27, the aspiring teachers toured the BODIES Exhibition at the South Street Seaport. Although it may not have been the first viewing for each of them, they were all strongly impacted by the exhibit.

## Who is in the BMCC Teacher Academy?

### Lance Brown



I have always tried to seize opportunity when it knocked on my door. Thanks to a scholarship from the Boys & Girls Club of New York, I had the opportunity to attend St. Andrew's High School in Barrington Rhode Island, where I was awarded the King Medal and

graduated as valedictorian. I enrolled at BMCC and also got started in the business world.

I became a real estate agent in 1989 and worked for several companies until I qualified for my real estate brokers license. With this license, I can work for myself. I then learned about title insurance, and how to obtain public information that would help me sell or purchase a house or business in New York City. I became so confident about my business that I wrote a book to help guide buyers and sellers of real estate navigate the confusing business maze. I broadened my capabilities by becoming a licensed notary and certified tax preparer with H & R Block. My business was going so well that I decided to leave school entirely and devote all my attention to my work.

Although I had accomplished a great deal, I wanted more satisfaction from my life. I returned to BMCC in 1995 to study small business entrepreneurship. Though taking classes intermittently and selling real estate for the next ten years, I still could not find the satisfaction I desired. I asked myself some hard questions in order to change my life. *What am I really good at doing? What made me who I am? How can I use that to find the happiness I am looking for in my work?* I realized that my business success was due to my numerical skills and my ability to teach others what I knew. I set a new goal: to become a New York City public school math teacher. I specifically wanted the public school over a private or charter school because I knew that many children, like those that still live in my old neighborhood of Spanish Harlem and neighborhoods just like it, had few if any African-American male role models.

I wanted to find out how I could reach this goal. What better place than BMCC to find guidance and support? After speaking with Dr. Rachel Theilheimer, Chairperson of the BMCC Education Department, I learned about the Teacher Academy (TA) Program. I was immediately intrigued. I believed the TA Program would provide an opportunity to pursue my dream. I changed my major to Mathematics and completed my TA application. Since I live in Brooklyn, Brooklyn College was the closest school that offered the TA Program. The program was so new that the application process was still under development. After several months of calling, leaving messages and waiting for their decision, I was told that I would not be accepted into the program. I never let anything stop me before so I decided to go for my goal without Brooklyn College.

It is said that "When one door closes another one opens." Dr. Han, my Statistics Professor, told me that BMCC was starting a TA Program. With the guidance and support of Dr. Gastón and Dean Gillespie, I was the first student accepted into the program. I feel that I am on the right path to achieving my dream. I have faith that all my hard work over the years will enable me to become a great teacher in the near future.

I began the BMCC Teacher Academy workshops during the summer. My favorite workshop, "Take a Look at How the Brain Learns – An Introduction to Neurodevelopmental Science," was fascinating. I recalled past science, biology, sociology and psychology lessons. All the information from those sources came together during this workshop and literally created, connected and fired my neurons! This workshop helped me see the importance of understanding the brain so that I can become a great teacher. Some people's brains work differently, making different connections at different rates. As a teacher I will meet the challenge to develop ideas, methods and programs that will help my students' brains develop so they can reach their highest potential.

The BODIES exhibit really uncovered the beauty and science of the human body. I remember the skeleton of the human body in my high school biology classroom; it was my introduction to the inner workings of the body. When I saw the BODIES exhibit, I had the chance to understand all the functions and parts of the human body. I learned a great deal from head to toe. It is clear to me that all the individual parts of the human body must work in harmony with each other for a person to be able to function. The brain is the like the conductor on a train, but without food processed through the stomach the train has no fuel. Blood may bring oxygen throughout the

body, but it is the pumping heart that sends it on its journey. Every body part relies on another, like a productive society. I will never forget my visit to that wonderful exhibit. I am looking forward to more Teacher Academy workshops and activities that will enlighten and inspire me.



**Nicholas Kaaya**

I am from the beautiful, peaceful town of Dar Es Salaam in the country of Tanzania in eastern Africa. I am blessed to have wonderful parents and three great sisters.

Adjusting to living in New York City while I obtain my college education has been such an amazing experience! It has certainly been surprising to see what great opportunities New York City has to offer.

As a full time science major at BMCC I have taken courses in my major that have been both challenging and enjoyable. I am looking forward to my third semester this coming fall.

During the summer I was fortunate to participate in the Peer-led Team Learning (PLTL) Conference. I was impressed with the variety of administrators, faculty and students who attended. I enjoyed the conference because it emphasized leadership, teamwork, learning, and helping others learn.

The information discussed at the conference and many of the Teacher Academy summer workshops influenced and improved my thinking capacity and self-understanding. I particularly enjoyed the focus on learning styles. I was pleased to identify my own learning style with the help of Kolb's model. I discovered that I am a reflective learner. This implies that I prefer to think about new information first before acting on it. Reflective learners often choose to think through problems on their own rather than discussing it in groups. I noted that classes with long lectures and dialogues could be difficult for a reflective learner.

I also liked the Teacher Academy workshop on math and science study skills. During the summer I was a mathematics tutor in the Summer Immersion Program where I was able to share tips on studying math that emphasize understanding concepts and solving lots of problems. Now I can also share general tips for tutoring math:

- We all know math can be very challenging at times and different people learn differently. When explaining a difficult or a new concept, try to go slowly and always remember what it was like when you were introduced to new concepts.

- Always give your tutees enough time to process the new concept and try to explain the concept at a level your tutees will understand.
- Give your tutee time to respond to a question. In this way, you will find out if your tutee really understands the new concept.
- Help the tutee to identify errors the tutee often makes so that the tutee can be more cautious the next time there is a similar problem to tackle.
- Get a group of tutees to demonstrate their knowledge by giving them different problems to solve instead of asking if they understand. When they do different problems and get them correct, you have a perfect indicator that they are making progress.
- Always be patient with tutees. Remember we all learn differently and our levels of thinking may be totally different. What may seem simple and obvious to you may not be as obvious to someone else.
- Always create a positive and relaxed environment for the tutee. The tutee should feel very comfortable and free to ask questions.
- Lastly, help your tutee understand that with hard work and a positive mindset success is possible not just in a course, but in life.

I am thankful to be part of the BMCC community because I have learned so much since I enrolled here. Now I am also thankful to be in the Teacher Academy because I am learning so much about the learning process. This not only helps me become an effective tutor, but also a better, more perceptive learner.



***Laju Kuyatsemi***

I was born in the city of Benin, Nigeria. When I was a child, my father immigrated to the United States to seek better opportunities for our family. I attended numerous Nigerian boarding schools where I was not considered an ideal student.

My favorite subjects in school were math and science. I never took an interest in reading and creative writing. When I was 10, my family reunited in the States where I continued my schooling. The experience of being in a new country and school environment were very intimidating. It was hard to readjust to the culture and way of life in America. In junior high school my life was miserable. My peers teased me about my thick accent; I had no friends. I was relieved when I finally made one friend who was both my neighbor and classmate.

In high school I became more confident. I attended Samuel J. Tilden High School before I transferred to a school with a better program in math and science, Middle College High School.

At Middle College I became active in various activities and programs. The program that was most significant to me was the Junior Achievement Program. In Junior Achievement I was able to be a teacher at P.S.161 for an entire day. The opportunity to be a role model for a future generation brought on great responsibility that I gladly accepted and enjoyed. Working with the school children reminded me of my own background as a challenging student.

My goal is a Master of Science degree. My long term goal is to become a good science teacher to help educate young people.

My most memorable time in the BMCC Teacher Academy Summer Program was the PLTL Conference at CCNY. I enjoyed working in the groups. I was surprised that there were so few young students among the participants. During lunch, we all sat together and shared our backgrounds, educational experiences and goals. I met students from Pennsylvania, Georgia, Florida, and other states.

During the conference, we were put in groups of five to six people randomly, which made me a little uncomfortable. But after meeting my more mature group members and participating in the PLTL workshop, I realized we were on level ground. They had just as many questions as I did. I felt more comfortable knowing that we all wanted to find out how to develop a great PLTL program. There was a time during the conference when we were given a math problem to solve. To my group's surprise, I was the first one to solve the problem. I was very proud and happy when they asked me to explain my solution. For a minute, I felt like a real peer leader helping a group of students in a lab. After that minute, I found myself humbled because I had a hard time explaining my solution. It made me realize that I still have a lot to learn about math, people and myself.

That moment also gave me a lot of insight about becoming a peer leader. I remembered the summer Teacher Academy workshop on how the brain learns. Different brains learn differently so my ways of understanding something may not be the same for another person. This means that when I explain a solution, I must be able to provide step-by-step details.

I truly enjoyed the BMCC trip to the BODIES exhibit. I never would have imagined that a human body as small as ours could contain so much. As a science major, I have studied about the body but nothing could have prepared me for the real thing. Seeing the veins, lungs, heart, digestive system and more, made me realize how delicate our body can be. The exhibit viewing even made me aware that I must exercise more care in the ways I treat my own body.

I was especially impressed with the babies. I have never in my life seen anything so beautiful, thin, and fragile. I could not help mourning for them as I thought about the adults they might have become had they lived.

I was glad to be able share the BODIES experience with my family, my friends and their families. I want to go back to the BODIES exhibit because it gave me an entirely new perspective on teaching and learning science that I can build upon and convey to many others.



**Libany Martínez**

I am from the city of Santiago de los Caballeros in the northern region of the Dominican Republic. Both of my parents are professors. My passion for numbers was apparent since my early education even though many people predicted that I was going to be involved in either the literary world of my father or the philosophical world of my mother.

I did my primary studies at private schools, and then completed junior high school. At the age of eleven I began to study English and was later accepted into the Instituto Politecnico Industrial Salesiano (IPSA), a high school. I completed studies to become a technician in the electronics field. As soon as I finished high school I moved to the United States. I was not familiar with the American school system so I decided to study something that was related to electronics. My goal was to become an engineer in the electronics field. I wanted to start college right away; my aunt advised me to enroll at BMCC.

Although I started as a computer programming major, a math professor made me realize that I should consider a curriculum change. He saw great potential in me and persuaded me to consider the mathematics world. I have always liked mathematics. I studied electronics because I didn't think I would ever have such a desire to teach math. I changed my major to get into the most amazing profession, a mathematics career. Actually I'm majoring in math to accomplish my dream. My goal is to help others really understand math and change the myth students have about math being the hardest subject of all.

During the Teacher Academy Summer workshops I enjoyed the introduction to neuroscience and how the brain learns. Neuroscience can help future teachers find ways to involve students in class, participate and be more enthusiastic. The book we studied, *How the Brain Learns* by David A. Sousa, analyzes in detailed ways how the brain processes information and what we can do to retain that information. Using this knowledge, teachers can develop and use new instructional techniques properly and even modify traditional classroom techniques so they will be more appropriate.

Educators are the ones responsible for creating an environment that will stimulate learning. With this book they have a tool to help students of any age and grade level. *How the Brain Learns* is an exceptional publication

that I will definitely use as a resource for my future classes.

After viewing the BODIES exhibition, I realized how perfectly the human body is assembled. The body is very sensitive and complex, but marvelous to visualize in many different and astonishing ways. The diversity and originality of the BODIES exhibit make it one of the most impressive and remarkable exhibitions of all. It is fascinating, educational, interesting, curious, and attractive. It is clearly a significant exhibit for both science teachers and their students. The whole body specimens, organ displays and arrangements are awesome. It was interesting to see how these bodies and organs are preserved by using dissection and polymer preservation methods. What impressed me most was the exhibit of the healthy lungs of a non-smoker in contrast with the black lungs of a smoker. Even though I do not smoke, I can better appreciate laws supporting a smoke-free environment. A nearby glass case filled with cigarette packages made me realize the impact that exhibit had on smokers who were moved to overcome their habits.

Exploring the body from the inside out was an outstanding experience that I will never forget.

**The Math & Science Teacher Shortage**

A chronic shortage of qualified mathematics and science teachers has created national competition for such educators. The competition has forced New York City to strengthen its recruitment efforts. The city needs hundreds of mathematics and science teachers "simply to fill routine vacancies created by retirements, sabbaticals, leaves of absence and attrition."

To attract new teachers and keep others from leaving, the city has several special recruitment and certification programs, and offers competitive salaries and other benefits that include housing subsidies. (NY Times 4/19/06)

Average NYC Teacher Salaries*			
Degree	1 <sup>st</sup> Year	10 Years	20 Years
Bachelors	\$44,849	\$62,647	\$77,882
Masters	50,353	68,151	83,386
Masters + 30 credits	55,858	73,656	88,891

\*Salaries based on the current contract.

If you are interested in becoming a certified New York City secondary school Mathematics or Science teacher, please contact Dr. June Gastón.

If you have questions about the information in this publication, or information to contribute please contact  
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