Becoming a Paraprofessional  

By: Ellen Troy (T-13)

Like other TIME 2000 students, I have been investigating my options to determine whether or not teaching is the right career choice for me. At the suggestion of my mother, a school secretary, I decided to become a substitute paraprofessional in the New York City Department of Education (NYC DOE). A paraprofessional is a teacher's assistant who sometimes works individually with students. Paraprofessionals are not licensed teachers, which means after meeting a few basic requirements (see page 2), you can begin working as a substitute paraprofessional.

This past summer, I worked on completing the job requirements so that I could begin working as soon as the school year started. I do not have Friday classes at Queens College, so I am available to work. Much to my surprise, I have been called every week since the school year began. I’ve worked in a variety of classes with a variety of students. There are a number of things a paraprofessional might do, including work in a special education class, be a one-on-one for a child with health or learning needs, or be a classroom assistant in a pre-kindergarten class. Aside from the flexibility of the job, there are additional perks as well. Every Friday is a day of observation for me. I walk in, get to speak with the teacher about how the classroom runs and what my responsibilities will be, and then I get to spend the whole day observing. Whether it’s an elementary school where I’m spending the whole day with one teacher or I’m traveling with a student from class to class in a secondary school, I try to learn as much as I can. I have been forming my own teaching styles while I’m working with the students and observing the teach-

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Where’s the Math?  

By: Amy Lee (T-11)

Meet Me at the Math Midway

Do you think it’s possible for a tricycle to have square wheels? The Math Midway, a traveling exhibition from the Museum of Mathematics, lets visitors explore such a quandary. Ride a square-wheeled tricycle, spin the wheel of chance, or challenge the ring of fire! On June 5, 2011, I volunteered to work at the Math Midway at the World Science Fair in New York, NY. There were many interactive exhibits and games, including a simulation of a dog that gets loose despite a series of knots in his leash and an organ that generates tunes determined by player-selected numbers. The Math Midway is currently at New Jersey’s Liberty Science Center through January 22, 2012. Don’t miss your opportunity to have fun with mathematics! For more information, visit mathmidway.org. You can volunteer to help run the next event by e-mailing Victoria Winters at volunteer@momath.org.

Bubbles and Mathematics

Where’s the math in bubbles?! On June 8, 2011, Frank Morgan answered that question during a presentation at Math Encounters, a public presentation series sponsored by the Museum of Mathematics (scheduled to open in 2012) and held monthly at Baruch College. Frank Morgan is a mathematician who has an interest in “minimal surfaces.” In 2002, he became famous for proving the Double Bubble Conjecture, which states that a double soap bubble is the optimal shape for enclosing and separating two chambers of air. At the presentation, he discussed the properties of such a bubble. After his talk, children were allowed to dip various geometric figures (such as rectangular prisms, tetrahedrons, cubes, and dodecahedrons) in the bubble bath to produce various bubble cores and shapes.

The schedule of future Math Encounters presentations and videos of past presentations are available on-line at http://momath.org/home/math-encounters/.
Words of Wisdom from Michelle Yacoub (T-10)  
By: Michelle Yacoub (T-10)

Student teaching in your senior year of TIME 2000 is one of those experiences in life for which you’ll be both excited and nervous. I can’t tell you exactly what to expect for your student teaching experience, but there are a few things you can do to make it the best it can be.

1. Expect to work hard.
2. Arrive early to meet with your cooperating teacher every day.
3. Have your lesson plans ready several days ahead of time.
4. Always be willing to do something extra for your cooperating teacher, such as grade homework, make copies, or teach an extra class. It might sound ridiculous that I’m recommending that you ask for more work, but the more work you do as a student teacher, the easier your transition will be when you have your own classroom. It is just like high school—the students who weren’t tempted by “senioritis” were the most prepared for their freshman year of college.
5. Always try to look—and feel—your best. Make sure you sleep at night, so that you can be in the best possible mood the following morning. Bad days are bound to happen, but every day shouldn’t be a bad day due to a lack of sleep! Look presentable—no matter how tired you might be, dress professionally, comb your hair, and make sure you always smell nice (but don’t overdo it with fragrance). Dress is very important. It doesn’t matter how your cooperating teacher (or any other teacher) dresses—those teachers already have jobs! We can’t help it if we look young, but we can dress and act as maturely as possible.

Now that I gave you advice about things that are in your control, here is some advice for the aspects of student teaching you can’t always control. Always remember that the classes you are student teaching are the responsibility of your cooperating teacher. In a perfect world, every cooperating teacher would be supportive of discovery learning and allow you to instruct his/her classes in the way you have been prepared to teach. Unfortunately, this might not be the case. So, write your lesson plans early and make sure you give your cooperating teacher the chance to discuss them with you. Follow the advice given whether or not you agree with it. When you don’t agree with the given advice, accept it anyway. If you must complain, do so with your TIME 2000 cohort, not with anyone associated with your placement school. Be open-minded and ask questions. Your cooperating teacher has more experience and knowledge than you do; consider him/her a great source of knowledge.

Lastly, remember to have fun! Take your lesson planning and responsibilities seriously, but do not take your mistakes to heart. There will be good days and there will be bad days. The more you smile and realize that student teaching is a learning experience, the more you will benefit from it. The spring semester of your senior year will be tough, but 100% worth it.

Becoming a Paraprofessional

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ers. In a few middle schools, I have been assigned to accompany specific students to all of their classes. I remember working with a seventh grader one week and watching a math lesson about approximating the square roots of numbers that aren’t perfect squares. The teacher used discovery learning by having the students draw squares on grids. I was amazed by the lesson and I rushed home to write it down. Sometimes, if I’m lucky, I get to chat with the teachers and pick their brains. They tell me about their experiences and give me a “behind the scenes” look at their classrooms. It’s just like observing a lesson for an education class and speaking with the teacher afterwards to discuss what we saw and ask him/her questions.

One of the things I love most about teaching is seeing students grow and improve. One of my first assignments was in a District 75 (special education) school, in a pre-kindergarten class. Because I was working with special education students, it was one of the most challenging days I’ve had as a paraprofessional, but I loved it. About 6 weeks later, I worked in the same classroom. It was amazing to see how some of the students had progressed and this reminded me of how rewarding it is to teach.

Not only has becoming a paraprofessional given me great experience, but it has made me think about life after college and what it’s really like to be working in a school. I’m excited to continue working, meet professionals in the field of education, and use what I learn in the future as a mathematics teacher.

NYC DOE Substitute Paraprofessional Requirements:
1. Be at least 18 years of age.
2. Be eligible to work in the United States of America.
3. Have a High School Diploma.
4. Be nominated by a school principal (this is an online process done at the school level by the principal).

Once you receive a nomination from a school principal, you will receive an email from Human Resources itemizing all the requirements you need in order to be eligible for processing. More information can be found on-line at http://schools.nyc.gov/Careers/SubPara. There are a number of costs associated with this process. The biggest cost is fingerprinting ($115.00). As a future student teacher, you will need to be fingerprinted during your junior year, anyway. The total cost of fulfilling the requirements to become a paraprofessional (seminars, fingerprinting, processing fees, etc.) was about $330.00. At a daily rate of pay of $129.61 before tax, the cost is recovered in three days of employment. Good luck!
During my observations for SEYS 361, I was fortunate enough to observe Mr. Julio Penagos (T-5), teach geometry, college algebra, and calculus. From the first lesson I watched Mr. Penagos teach, I was impressed not only by his teaching expertise, but also by the obvious connection he has with his students. Recently, I spoke with Mr. Penagos about his teaching experiences.

**How long have you been teaching? What made you decide to become a mathematics teacher?**

This is my sixth year teaching mathematics. When I first entered the TIME 2000 program, I wasn’t sure if I wanted to become a math teacher. As I took my math courses, I started to love math so much that I felt I had to share its beauty with the world.

**Where are you currently teaching? What do you teach?**

I teach geometry, college algebra, and calculus at the Queens School of Inquiry in Flushing, New York.

**What is the most rewarding aspect of teaching mathematics?**

A group of my students formed a math team this year. They practically run the team themselves. These students are really passionate about math, and it feels good to know that I’m partially responsible for that. Some of my students this year have told me that they’ve never had a teacher who is as excited and passionate about math as I am.

**What advice do you have for future mathematics teachers?**

Once you are a math teacher, try to make positive changes in the world with your students. Their efforts will amaze you, and they will teach you so much.

**How involved are you in extracurricular activities?**

I've always wanted to become more involved with helping the community and the world. One day I decided to start a community service club with some of my students. In the beginning, we had about 20 members. Without any community service experience, we worked together to learn different ways to help the community. Some examples of events we held are book drives, beach cleaning, and fundraising (bake sales and raffles). I feel good about this for several reasons: I have learned a lot, helped the community, and helped many students become leaders and active participants of society. We have great things planned for this year. Our club now has 40 members and many more students wanting to join!

**What else would you like to share with TIME 2000 students?**

Teaching is great because it gives me the power to change and touch the lives of my students. I believe I use that power in the right way; I try to show them the beauty of math and help them become better individuals. Every day, I become a better person with the help of my students. I also like teaching because I love traveling, and the profession gives me the opportunity to travel around the world during the summer. I learn something different from every country I visit, and I use a lot of that knowledge in my lessons. I really hope you enjoy teaching as much as I do.

**Fun and Games**

What do you get when you divide the circumference of a jack-o-lantern by its diameter?

**Pumpkin Pi!**

HUH? It’s cake. But it’s pi. But it’s CAKE. But it’s PI. BUT IT’S CAKE!!!

**Calling All Writers!**

As seniors, the current newsletter editors will be retiring in January 2012. If you are a member of TIME 2000 and are interested in becoming an editor of the newsletter, please email us. If you would like to write an article, email us as well.

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-Mara and Greg

Happy Thanksgiving!
SumSum Solving Tips

- The clues to the left of each row and at the top of each column tell you what numbers to use. For example, if a clue is a 1 or a 2, then you will use a single 1 or a 2 because there is no way for two different numbers to add up to 1 or 2.
- The number of clues tells you which squares must be black and which squares must be white. Some black squares can be placed immediately. If a line has only one clue, then there is only one run of numbers, so the two end squares must be black. All the rest of the squares must be white.
- This line has only one clue, which is 15. So you know that the two black squares must go at the ends of the line. You can mark them black by filling them in. You can mark squares that must be white with a dash, like this:

![Example](image1)

- If a line has three clues, then both end squares must be white. This example has three clues, 5, 6 and 4. So you can mark the two end squares white, like this:

![Example](image2)

- If a line has two clues, then one end square must be white and the other end black. If you know the color of one end square, the other end must be the opposite color.
- The two black squares in any line can't touch. So, every time you mark a square black, you can mark the surrounding squares white, like this:

![Example](image3)

- When there are only two squares left in a line that don't have to be white, those last two squares have to be black. Once you have found where the two black squares go, you can mark all the other squares in that line white, like this:

![Example](image4)

- After you have found some of the black squares, start looking for places where there is just a single white square. The clue will tell you what number to put there.

![Example](image5)
Solution to 7-digit SumSum

```
6 2 4 5 1 3 7
2 7 6 5 3 1 4
3 1 4 7 2 6 5
3 5 1 4 6 7 2
4 5 6 7 1 3 2
5 1 2 3 4 6 7
6 3 7 2 5 4 1
7 4 2 6 1 5 3
1 7 3 2 5 4 6
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