Teachers Helping Teachers:
Words of Wisdom from New Mathematics Teachers

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Whether you have been teaching for decades or you are just beginning to student teach, teachers should be life-long learners. With each new course you teach, there are obvious lessons to learn about both the content and pedagogy involved. You may have been teaching a course for decades and yet found new ways to teach a concept in order to introduce mathematics to diverse learners. As Claude Fuess said, after 40 years of teaching, “I was still learning when I taught the last class” (as cited in Hurst & Redding, 1999, p. 71).

Do you remember the incredible amount you learned during student teaching and your first year of mathematics teaching? Learning the rhythm of the school day from the teacher’s perspective; learning how to teach lessons; learning how to make assignments (and find time to get it all graded), and learning how to still have a personal life. Most of us would look back and agree that there was a lot left to learn after that early point in our teaching career and at the same time, there was a lot that had been learned.

In particular, a beginning teacher’s success begins well before they enter the classroom and is sustained with the help of others. According to the National Council of Teachers of Mathematics (NCTM), “…beginning teachers need the professional support of administrators and more experienced educators...[and] …believe that school systems and universities must assume shared responsibility for [such] support of beginning teachers…” (NCTM, 2002, p. 4). In response, we asked students finishing their student teaching to write letters offering advice to the next cohort of student teachers and after their first year of teaching mathematics in high schools, we asked them to write another letter, this time giving advice to first-year mathematics teachers. At that early stage in a teaching career, what words of wisdom could these mathematics teachers offer to those who are following them in the teaching profession? Could they possibly have words of wisdom to offer their more experienced colleagues? We believe their responses provide professional support to teachers regardless of experience level.

Given wide latitude of what topics to address, these new teachers’ pearls of wisdom tended to address one of three broad categories: students, teachers, and the personal aspects of teaching. The comments of two such mathematics teachers, unedited, are included as illustrations of the insight that teachers can have early in their careers.

Students

Motivation

The students come into class carrying more baggage (and I am not referring to their back-packs) than I could ever imagine, and as their teachers, we need to remember that mathematics may not be what is on their mind or even most important to them that day. Consequently, as a teacher, I have come to understand that motivating students to learn is essential. The first thing that student’s notice is whether you want to be at school. If you are excited to be there, the excitement rubs off
on your students. If you love what you are doing, it shows. It typically seems that students either love or hate mathematics. So if you have fun while teaching mathematics, the kids will start to love mathematics too (or at least smile because they think you are so goofy). The teacher has to understand that mathematics may not be the most important thing to the student today so we have to motivate them to want to learn. Students need to know that you want them to be there. If you care about them, they are more likely to care about the class. Students treat you with the same amount of respect that you give them.

Classroom Management

The most important thing I learned during student teaching was classroom management skills. You never get to really practice classroom management strategies in pre-service methods courses. My cooperating teacher had a lot of good ideas about classroom management and I incorporated the following techniques. I outlined the classroom rules. My policy is to have as few of rules as possible. With numerous rules, you need to have numerous disciplinary actions laid out. Thus, I usually only have two or three rules, such as respecting the teacher and classmates and to come to class prepared. Also before the first day of school, you should receive a list of students who are enrolled in your class. I use this list to set up an alphabetical seating chart so I can learn their names. I also show the list to teachers from last year so they can point out students who will be helpful and those I need to keep a close eye on!

I would also advise you to be prepared for the first time a student confronts you. The first time a student was rude to me and told me that I was not a good teacher I got upset, but now I realize I should not have taken this personally.

As a result, I have come to believe that classroom management is just another thing that will come as I gain more teaching experience.

Parents

Another thing that you will need to be prepared to do is address a parent. Communicating with parents throughout the year is a good habit to form. I try to contact parents at the beginning of the year, either by telephone, mail, or e-mail, just to introduce myself and provide them with information about how to contact me.

Parent support is important. I try to call ALL of my students' parents or guardians after the first test. Parents love to hear good news about their child such as their child “aced” a test. Parents are usually surprised to receive a good call--either their child is always good so they never get a call or they only get bad telephone calls. Kids really love calls home (for good news) too. It helps motivate students to learn when they know that you are proud of them. Many parents appreciate the information and later, when you need to call with a problem, they know who you are and are more likely to help solve the problem.

Teachers

Logistics of Teaching

Due to the fact that I did my teaching in the spring, my teacher had already set the tone of the classroom. My first week of student teaching went well because students were taking first semester final examinations. This provided me with a great opportunity to learn the students’ names by looking at the seating chart while they took the examination. I had made arrangements the semester prior to observe
the teacher whom I had been assigned to complete my student teaching internship with, so I became familiar with this teacher’s daily schedule and classroom procedures. I would recommend you do this once you are notified of your student teaching placement. The week after final examinations were administered, my partner teacher had me teach “parts” of some lessons. Some days she would ask me to review certain problems an hour before the class began or ask me to change problems I had prepared to use in my lesson, so you just have to be willing to try things and be flexible.

Yet, little did I know that my first job teaching would not begin so smoothly. Initially, I felt as if I was bombarded with so much information about school procedures that I would never remember it all. I quickly found that I did not have to memorize everything before the first day of school. However, there are a few things you may want to have decided before the first day of school. In each class syllabus, I outlined for the students the assignments that we will be doing in class. This included not only homework and tests, but also any projects, portfolios, and/or notebooks. The syllabus also showed how each assignment will be graded.

Lesson plans and grading will be the two hardest things to deal with on a daily basis that last all year long and for the rest of your teaching career. I try to have plans for at least three days in a row. Then, if you have a lot of grading one night, have to attend a school function, or just don’t feel like doing anything after a hard day, you are still prepared for the following day. Organization is a key to a successful second year. Keeping a three-ring-binder or file system that contains lesson plans, worksheets, and tests from your first year come in very handy the next year. More than likely, you will teach the same class during your second year, and thus can use items from last year. This cuts down on planning time tremendously, but not completely. Also with your lesson plans, keep notes of how the lesson went and what you may need to change for the next year. You need to reflect on each lesson and modify it accordingly. Keep in mind that each class is unique. As far as grading is concerned, you need to find a system that works for you. Personally, I always wanted to know how I had done on homework and especially tests as soon as possible. Feedback can also help the students learn. Thus, I try to keep up with grading, and not let it pile up on my desk. This may be easier for some content areas, so I just do the best I can. Students want to receive credit for everything so rather than grading each assignment for every student, I either check for completeness or give a homework check where students write down answers to select questions. Some teachers even require students to keep a notebook of every assignment and then give a homework check before a unit test.

Collaboration

I would advise you to go into teaching with an open-mind and be flexible. During student teaching, your partner teacher probably has procedures in their classroom established, so you need to be willing to adapt to their style. It is not that you cannot try your own things, but you need to keep the stability for the students’ sake.

My partner teacher was great about helping me plan lessons. After the first few weeks, I began teaching one of the mathematics classes on my own but my teacher always asked me what I had planned and gave me suggestions. One thing I always remembered was that these were still her classes and even though she was willing
to let me try things, she had the students’ learning in mind. Therefore, when she would make changes to my lesson plans, I knew it was not something I did wrong, and rather it was an opportunity for me to learn from her teaching experience.

During your first year of teaching, a mentor teacher is a great resource that should be utilized. My mentor teacher was always very willing to share tips on how to deal with many issues. The key is to ask questions constantly! Remember, these veteran teachers know what it is like to be a first-year teacher and are willing to share their experiences to help in any way possible.

Both during your student teaching and first year of teaching, try and visit other teacher’s classrooms too. Observe teachers who teach different subjects or grade levels. Every teacher has their own style of teaching—you can learn a little something from everyone and gain different ideas to use in your classroom. Again, “steal” ideas from other teachers and find what works best for you.

Teaching is a time to learn. I learned a lot about myself, both as a student teacher and as a beginning teacher, by trying many strategies in the classroom, reflecting on my teaching, and learning from other teachers.

Personal Aspects

Once you begin your student teaching internship, enjoy every minute because the next sixteen weeks will go by fast. Student teaching takes up more time that I could ever have guessed. Plan your schedule so that you will have plenty of time to devote to your student teaching (and yourself). It will make everything go much smoother if you have the time to prepare your lessons. Your days will be very long, and mornings will come early. There will be days you don’t want to get out of bed. I suggest that you think about that one student in your class who is always there willing to learn or who always helps you by answering questions during discussions. Students like this make every day worthwhile!

You have probably heard that your first year of teaching is going to be the hardest year of your career. While this may be true, I believe that there are ways to make some things a little easier to deal with. The first thing I want you to know is that if you are anything like me—RELAX, take a deep breath, and have a great time. The most important thing you can do is to have fun, and let the students see you having fun. Take in as much as you can from the teachers around you, and most importantly, enjoy yourself.

Mathematics: The Missing Topic

The lessons these teachers have learned and chosen to pass on in their letters of advice reflect the kind of learning and growth that all teachers should have. The things that these mathematics teachers have chosen to pass on are the things that they have had to pay the most attention to in their first years of teaching. They are also the things that teacher educators often throw their hands up into the air and say “that is something that only comes with experience.” Unfortunately, this has its price.

In August 2002, the NCTM adopted a position statement on the induction and mentoring of new teachers recommending that “school systems and universities…provide [beginning teachers] with opportunities for further development of mathematics content, pedagogy, and management strategies” (NCTM, 2002, p. 4). Interestingly, we noticed that their letters did address many issues related to management but less on pedagogy and nonexistent in these letters was a focused
discussion on mathematics and the mathematics as the students understand it. These teachers have successfully completed a lot of mathematics courses at the college level and have taken at least one course on how to teach mathematics. The mathematics, however, often gets overshadowed in the initial teaching years by the newness and intensity of the experience of operating in the school culture as a teacher for the first time. This points to an important goal for teacher educators: How can we rework teacher education to help new mathematics teachers to stay focused on the mathematics that the students are learning?

The following suggestions are offered not as “the correct solutions” but merely a place to start the brainstorming on how to solve this dilemma. One possible way to keep the mathematics from being overshadowed is to remove some of the intensity from the student teaching experience. This could be accomplished, as it is in some universities, by having an extended internship experience that does not have them teach a full load. This offers time for them to reflect deeply on the mathematics they are teaching as the students are coming to understand it. An example of this would be the program at the University of Tennessee (UT), where the internship is a full year, with students taking one or two courses during the first semester and another course or two in the spring. In addition, interns take courses during that time including, analysis of teaching, mathematics methods, and action research. This gives the mathematics teacher educators at UT several opportunities to keep the interns focused on mathematics.

Another possibility would be to introduce them into the school culture and the teacher’s role sooner. This is a concept that many colleges of education are trying to accomplish through earlier and more frequent field experiences. Whatever the remedy turns out to be, the hope is that eventually our young teachers advice to those who follow will be more mathematical.

Conclusion

The words of wisdom offered by these new mathematics teachers hold promise and warning simultaneously. They are learning important lessons about motivating students, how to interact with parents, and how to be co-learners in the school environment. These words of wisdom are all invaluable and mathematics teachers of any experience level should heed the advice given by these two individuals. At the same time, we need to keep in mind that we are teachers of mathematics and that the content should be questioned and thought out. The curricular and instructional choices made by teachers every day, often taken for granted, are critical to the students’ opportunity to learn. The assessment of students’ mathematical understanding and skills are crucial and should receive a lot of the teachers’ attention. This, too, is true for new mathematics teachers as well as those with 30 years of experience. We conclude with these final words of wisdom from two mathematics teachers:

The most important lessons we learned from our teaching experiences is to be yourself, have fun, and never forget that it is all about the students. The main reasons we come to school every morning, is for the students. What is best for your students is what you always need to keep at the front of your mind. Your first years of teaching go by quickly. You will survive and before you know it, you will have words of wisdom to share with beginning teachers.
References


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Prospective authors should send:

- **Five (5) copies of your article, typed, double-spaced, 1-inch margins.** Put your name and address only in the cover letter. No identifying information should be contained in copies of the manuscript. Articles should be no more than ten pages in length, including any graphics or supplementary materials.

- **A diskette with your article, including any graphics.** We prefer that the article be written in Microsoft Word and that it be saved on an IBM-compatible disk. Graphics should be computer-generated or drawn in black ink and fit on an 8½”×11” page.

- **Your name, address, phone, and e-mail** (if available) should be included in a cover letter.

- **A photo of yourself** (Illinois authors only), color or black/white.

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