

Sinclair Mathnet

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FROM THE CHAIR



I've noticed that when political figures leave office they spend a lot of time talking about everything that has been accomplished during their term. Of course, they emphasize the word "we" a lot so it doesn't sound like they are bragging

about their own accomplishments, but what they really want to do is make sure you know what a great job they did. I don't know what math department chairs talk about when they move on, but this one isn't going to talk about that. I have two other things to discuss. First, I'd like to offer some suggestions for the future of our department. And second I'd like to tell you why I think teaching mathematics is a good way to spend your life.

As to the future of our department, while the major focus of our energies of late has been trying to improve student success in our lower level courses, let's not forget that most of our students are taking courses other than Math 101 and 102 and for the most part are doing very well. Many transfer to four year schools where our courses are universally accepted. These courses have typically satisfied the requirements for the state Transfer Module and the Transfer Assurance Guides easily, and the reputation of our department at transfer institutions is very good. We must not fail to continue to maintain our high standards of performance in these courses so that our students completing them will continue to be competent, well prepared and well credentialed for future study and work. And of course this can only be accomplished if we continue to maintain high standards of performance in courses like Math 101 and 102, for if the foundation is allowed to crumble the building will not stand.

As for the ever present concern about student success in lower level courses, this will always be with us. And until success rates reach 100% we

must continue to seek ways to improve them. We have not been negligent in this effort. But beyond the things we are already doing, here is what I think it will take to reach the highest possible level of success without reducing performance.

1. We will need to remedy the problem of ill-prepared students entering our classes. This will require implementing a policy that places a time limit on prerequisites and placement test scores and deregistering students from class who do not have the proper prerequisite. While there are many who resist addressing this matter, until this is done we will be missing an opportunity for substantive improvement.

2. We must increase the number of full-time faculty members. While we have many very excellent part-time faculty members with much experience, the high ratio of part-time to full-time leads to two difficulties. First, there simply are not enough people to perform the high volume of non-teaching responsibilities of the department that are needed to bring about improved student performance. And second, with so many part-time members there is a high incidence of turnover which results in a large time commitment to learning and training and a significant number of less experienced faculty in the classroom at any given time.

3. When the college replaced our departmentally developed placement test in the early 1990's with the Compass Test (then called Asset), the new test placed fewer students into Math 101 and more into Developmental. At the same time we experienced lower success rates and final exam averages in Math 101. This anomaly, together with my belief, and that of others, that the exam did not test the right things, led me to conclude that the test was not effective and that tinkering with the cut off scores was not an appropriate remedy. But when the Accuplacer test came into use about two years ago there was sentiment, with which I agreed, that it does a better job of testing

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(Continued from page 1) the right things than Compass did. This fact, together with the two years of consistent data we now have, leads me to conclude that an adjustment in the cut off score for Math 101 is warranted and could be quite beneficial. I am planning to make such a recommendation shortly and I believe that it will help to improve the situation. An even better remedy might be for the department to go back to its own in-house designed placement test which can be tailored to our own curriculum better than a generic, one-size-fits-all test like Accuplacer.

4. We should continue to experiment with new teaching strategies. But we should not embrace them just because they are new or just for the sake of change or even just because someone else said they worked for them. We should embrace them only when they have proven, as measured against a *common standard* of measurement such as our department finals, to be more effective than tried and true methods. I think that Learning Communities are a promising example of such a strategy that we will be trying for the first time in the Spring Quarter.

5. The entrance requirements for Math 101 should be higher than they are for Math 191. Students with placement scores and course history that indicate a low likelihood of success in Math 101 should be required to take Math 191.

6. The department should institute a much stronger attendance policy than it currently has in place. We know that students who attend are usually successful. We may not know this is causal rather than correlational, but there is only one way to find out and students going to school on public funding (this is true of all students, even those who pay their own tuition) should be expected to attend classes anyway.

7. The promotion of distance learning is, in general, antithetical to the goal of improving student success in mathematics. This is not to say that there aren't students who can benefit from and be successful at this mode of learning and we should provide this as an option, but only for students with demonstrated ability to be successful at it. This means they must be students who are self-disciplined, have particularly strong prerequi-

site skills and are capable of learning math on their own. Students taking distance learning classes must be screened to make sure they satisfy these characteristics before being allowed to take these classes or success rates will tumble even further.

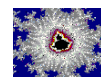
8. None of the many initiatives we already have in place is the magic bullet, but each serves a purpose and together they help many students. They should be continued.



In my final *Mathnet* message to you I would like to discuss why I think teaching mathematics is a good way to spend your life.

Certainly a lot can be said about the economic benefits that accrue to both individuals and society through the study of mathematics. When we properly train our students in mathematics and its methods they are more well-equipped to get better jobs and to perform them more effectively. And, since mathematics is at the basis of science and technology, the passage of mathematical knowledge from one generation to the next makes possible all the benefits to human society that derive from advances in science and technology. I don't think it can be denied that the teaching and learning of mathematics contributes to making our physical lives richer, more convenient, more comfortable.

But this is not all. When people are truly engaged in lofty intellectual pursuits such as the study of mathematics, they are usually not, at least at the same time, engaged in lying, cheating, stealing, hating, fighting, bickering and other similarly ignoble human pastimes. (Now you may object that some students do many of these things, such as bicker with you about exam points – exams on which they may have cheated. But are these students really engaged in the lofty pursuit of studying mathematics?) The study of mathematics is lofty and noble because it develops one of our highest human faculties, our intellect. By offering our students the opportunity to pursue something good and noble, we are not only giving them the chance to become more complete human beings, but we are also placing them (Continued on page 4)



Faculty Feature - Al Giambrone

I have been given the task (okay, I was asked) of writing the faculty feature about Al in light of his retirement from Sinclair at the end of Winter Quarter, 2007. There are so many things one could say about one who has done so much for so many over such a long period of time, and it is my privilege and pleasure to summarize the highlights of a distinguished career that has influenced so many students and colleagues.

With such a daunting proposition, and with only limited space in each issue, I will be writing this article in a series of installments to appear over this and the next two issues of *Mathnet*. This segment focuses on Al the family man, his early career, and his extended interests.

Al was born and raised in Dayton and graduated from Chaminade-Julienne High School in 1964. He went on to graduate with a Bachelor of Science degree majoring in Mathematics and Physics from UD in 1968. Continuing his studies at OSU, he graduated in 1970 with a Master of Science degree in Mathematics. He was hired at Sinclair to teach mathematics in 1972, the same year as Frank Hammons and Susan Myers. He taught his first quarter at the Dayton YMCA as the college was in transition to its then new 8-building campus.

His early department and college work was in developing the calculus sequence and linear algebra course and serving in faculty governance culminating in a term as Faculty Senate President. He was involved in the development of the merit determination system and supplemental retirement program (he will soon be enjoying the rewards of this early labor).

Those who have known Al for even a relatively short amount of time are aware of his love for his family and God. He and his wife, Yvonne, have three children, Matt, Gina and Joe, and for some years they took on the adventure of home schooling them.

Al enjoys philosophy and music. Some of us may even have heard him blowing a trumpet or strumming a guitar in years past. His interests also include traveling, hiking, and camping. He hopes to spend more time in retirement not only with these interests, but also in spending more time in prayer, spiritual reading, attending church, doing volunteer work and bettering his health through diet and exercise. He wants to spend more time with family and friends.

Future installments will look at his teaching experience and work as chair, as well as his reflections on teaching and advice to new and fellow faculty members.

David Stott ■



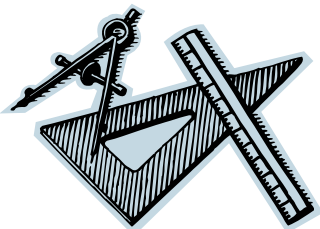
Al practices his little known hit,
"There's no Substitute for U."



(continued from page 2) in a state where they are distracted from spending their time engaging in the less noble human pursuits. In addition I would note that the engagement in this lofty and noble intellectual pursuit does not just make us more complete human beings in some abstract way. The study of mathematics nurtures many wonderful and practical virtues such as perseverance, attention to detail, self-discipline, honesty and humility.

But, by comparison, the foregoing reasons are of minor importance. The best reason why I think teaching mathematics is a good way to spend your life is because I believe it brings you into contact with the philosophical First Principle or cause of nature. I realize that not everyone agrees with me that this First Principle is the God of Christianity. No matter. For every thinking being there should be an awareness of a First Principle, a cause that underlies existence, and I believe that we encounter this principle in a substantive way in the study of mathematics. The First Principle is the cause of all being. As such it must exist in a way in which all the beings that do not exist of necessity and that are not *unchanging* do not exist. That is, it must exist of necessity and be unchanging. Mathematical truths exist in this way. They are necessary and unchanging. I believe they derive from the First Principle. And when we incorporate mathematical truths into our consciousness we unite ourselves, be it ever so slightly, with that First Principle. This, to me, is the highest value of mathematics.

We probably don't give much consideration to these many wonderful benefits to the teaching and learning of mathematics. We should. As for me it gives a sense of having spent my life in a useful way. I am grateful to everyone in this department both past and present and to Sinclair Community College for having provided me the opportunity to pursue something noble, teaching mathematics.



Al Giambrone ■

REMINDERS

- ∞ Remember that tests should be about one hour in length, even in classes that meet for more than an hour. This means that they should be doable in the allotted time by the average student who is adequately prepared. Any remaining class time should be used to advance the syllabus requirements.
- ∞ Don't forget to return your textbook to the Department Office if you will not be using it next quarter.
- ∞ Incomplete grades (I) may be given only to students who are doing passing work. The decision to assign an incomplete grade should be made only at the very end of the quarter and the remaining work should normally not comprise more than one or two tests or assignments. See section 4.2 in our handbook
- ∞ Except for an I grade revision, a grade change is generally not appropriate for a student who submits work after the end of the quarter. See section 4.2 in our handbook.

Harvey's Joke Corner

Little known movie prequels:

- First Tango in Paris
- Miracle on 40th Street
- Superman Exits



Dr. Chew: "...And remember that the Pythagorean Theorem, $a^2 + b^2 = c^2$, will help keep you looking young!"

Student: "Why?"

Dr. Chew: "It's that Grecian formula!"

Statistics student: "I have full confidence in getting 100% on my statistical inference test."

Instructor: "Pardon me, but I have 95% confidence."