GMATYC News

A Publication of the Georgia Mathematical Association of Two-Year Colleges

President's Corner

Ralph Wildy, *GMATYC President*
Georgia Military College, Martinez

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I am just finishing my spring break. It is such a good time of the year. I really enjoy seeing the new plants emerge from the ground and the old plants and shrubs renew their growth. Everything is growing, turning green and seeking to fulfill their full potential and bloom. This is in many ways a good metaphor of many of our students coming to us in two-year institutions. They too are seeking to renew their educational careers and attain their full potential and bloom as students.

We are blessed, in a way, by many more students attending our institutions each year. But, for whatever reasons, many are showing up with less than adequate skills in mathematics. Way too many are unable to successfully complete a mathematics course at the college transfer level. These student are placed in "learning support" or "developmental studies" programs that were supposed to be a pathway to aiding them in becoming sufficiently able to think quantitatively and reason mathematically. In all too many cases however, they were set up to emphasize facility with symbolic manipulations and a focus on getting ready for a study of the calculus.

For a very large number of our students today, especially those in non-STEM programs, such skill at symbolic manipulations and indeed the study of calculus is not a requirement for them. As a result, the developmental mathematics programs have no longer become a pathway to success but a locked gate preventing many students form going on with their desired goals. The most encouraging things I have noticed in the last year or so are the huge concern for and the amount of professional commitment to this problem.

In my own school, Georgia Military College, discussions are underway on ideas about how to shorten the path through developmental studies for those students not in STEM programs. Not surprisingly, this has been a heated debate as instructors from transfer mathematics courses and those from developmental courses do not always agree on what is necessary for all students to know. But this discussion is helping to clarify such things for all.

Other schools are also in the process of redesigning their developmental mathematics programs. Georgia Perimeter College is working very hard on their program. I would like someone in that system to share with us what they are doing and discussing. It would be very valuable to all of us.

This is not only a local concern , but is also one being talked about on

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(Send GMATYC Newsletter articles to Jessica.Craig@gpc.edu)

President's Corner

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the national level. I do recommend that all of us make ourselves very familiar with the Statway and Mathway initiatives by AMATYC . We spend a lot of time and energy in improving how we teach our developmental courses. We also spend a lot of time and resources in trying to provide tutoring and outside help for our students.

I suggest we may need to be taking a hard look at the entire developmental mathematics program. Are we really offering the type of remediation that many of our students need to grow and reach their full potential? Our developmental mathematics programs should be pathways to success not barriers to it.

AMATYC's Developmental Mathematics Committee's New Life model is freely available to all at our online community: http://dm-live.wikispaces.com/

Getting Involved in AMATYC

Donna Saye, AMATYC Southeast Vice-President

Hello GMATYC members! I would like to encourage all of you to become actively involved in AMATYC as well as GMATYC. There are many ways you can do that without spending tons of money, and during this time of economic difficulty, I think that is important. Here are some examples:

- We have numerous committees that meet at each AMATYC conference, but you can be a member of a committee and be actively involved in the committee, without attending the conference.
- If you are a new faculty member in a two-year college, you might be interested in Project ACCCESS.
- If you enjoy history, you might nominate yourself for the new AMATYC Historian position.
- You may be interested in participating in a webinar.
- You might consider applying for an advertised position in AMATYC.
- You could write an article for the MathAMATYC *Educator* or for the AMATYC *News*.
- You can easily nominate someone (perhaps yourself) for one of AMATYCs awards.

If you think any of this sounds appealing, please go to our website: www.amatyc.org. You will find information on everything I have said and more at the site.

If you have support from your educational institution, and you would like to travel, I would like to invite you to attend the AMATYC Conference, November 10-13, 2011, in Austin, TX. It is too late for proposals for presenting, but you could do a proposal for a poster session. All the information on the conference can be found on our website as well.
Thanks!

Donna Saye
Vice President, Southeast Region
AMATYC

Elementary School Mathematics Tournament at Georgia Perimeter College

By Bob Koff

In the fall of 2008, the idea of Civic Engagement and Service Learning was being brought up throughout the college. From our President, Dr. Anthony Tricolli, to the individual classroom instructor it was on everybody's radar. It occurred to me that our students needed to connect with the community we serve by providing some common ground. As a teacher of a course for pre-service elementary teachers, the opportunity we were looking for was obvious. To have our college's academic resources reach out to the community through a mathematics tournament for elementary school students seemed to be a perfect fit. With the support of the college's administration from Deans, Department Chairs and faculty we set out to create the connection.

The rationale was to get the college out into the community, have our Early Childhood Education Majors interact with elementary school students, and provide a competitive and fun way to foster an interest and appreciation for mathematics in the elementary students, an idea even President Obama has endorsed.

We decided to hold a math tournament for students in grades three, four, or five. Elementary schools in the area are generally K-5 configurations. The tournament, which is free to the schools and students, is underwritten entirely by Georgia Perimeter College. The tournament is advertised in local newspapers and through local school system announcements.

The tournament starts with a 50 minute grade appropriate 25 question multiple-choice test given to each individual student. This is followed by a 10 question "speed round" where teams of four students in the same grade from the same school work cooperatively to solve the problem. Each question correct on the individual test is four points, and additional tie-breaker question are offered in case of ties. The speed round consists of a folder with 10 questions, each on a separate sheet of paper. The folder is placed on a table where all four team members work together to come up with a correct answer. Correct answers are awarded five points if answered correctly and submitted in the first minute, three points in the second minute and one point in the third minute. Time is called after the third minute, and the next problem is drawn from the folder and the process repeated until all 10 questions have been answered.

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Elementary School Mathematics Tournament at Georgia Perimeter College

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After the speed round ends, there is a snack break for the students with prepackaged chips and cookies and non-carbonated drinks. This gives the college faculty and students time to compile results. If ties still result on the individual test, they are resolved with an extra tie-breaker question correctly solved and handed in.

Trophies are then awarded to the top five individual scores in each of the three grade levels. These scores are then added to the speed round scores for each team to determine the top three teams in each grade level and trophies presented to those teams. The top three schools are determined by adding together the top total scores of each of the grade level teams.

Our first tournament in April of 2009 had 32 students from seven different elementary schools. One year later we grew to 207 very excited third, fourth and fifth graders from 21 different schools. Evaluation forms handed out to parents and the elementary school teachers who accompanied the students were overwhelmingly positive about the opportunity for their students. Our Early Childhood Education Majors were pleased with the connections they made with the young students.

For information about our tournament please see our website at: www.gpc.edu/~dunmcse/mathtourney

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The Third Annual GPC Elementary School Mathematics Tournament will be held on Saturday, April 30, 2011 on the Dunwoody Campus. Registration begins at 8:00 a.m. Testing begins at 9:00 a.m.

Preparing Students for Success in College Math – A Design in Progress

By Alvina Atkinson, Barry Biddlecomb, and Natasha Brewley
Georgia Gwinnett College

College mathematics courses are challenging for many students. Students who enter college without adequate preparation are often placed in compensatory courses that use the same lecture-based techniques that have failed these students in the past.

"The essence of learning math is doing math, rather than passively listening." (Thiel, Peterman, and Brown, 2008) Lecture-based mathematics classes encourage students to be consumers of mathematics rather than producers of mathematics. But mathematics is not a spectator sport.

The Pre-College Algebra course, MATH 0099, at Georgia Gwinnett College was designed to address some of the ideas of course redesign from NCAT and AMATYC. This innovative design includes self-pacing, early exiting which allows the students who just need a review to finish the course early, and just-in-time teaching which helps students with what they need when they need it. The course is web-based which gives the students flexibility to work on the course at home or at school.

Another key aspect of the course design is that it is mastery-based. Initially, students are given an assessment to determine what they know. Based on the assessment, topics are available for the student to study which build upon the topics that are mastered. More difficult topics covered in the course are locked until the student has mastered prerequisite topics. Once the prerequisite topics are mastered, new topics are opened up. The students are also encouraged to revisit content that they have already mastered. Frequent assessment is also built into this component to ensure that students retain the material that they are learning. Study skills are also another important aspect of the course design.

The results of the design of MATH 0099 have been positive overall. We have examined the results both in terms of exit rates and preparation for the subsequent mathematics course, college algebra. Prior to fall semester 2007, there was no MATH 0099 course being offered at Georgia Gwinnett College. The course was offered for the first time in Fall 2007, therefore no data exist prior to Fall 2007.

From Fall 2007 to Summer 2009, 490 students enrolled in MATH 0099. Of the 409 students who enrolled in MATH 0099, 306 or 62.4% qualified to take the COMPASS test. Two hundred thirty-six students scored above 36 on the test and successfully exited the course. The number corresponds to 77.1% of those tested for an overall exit rate of 48.8% over the period from Fall 2007 to Summer 2009. The mean time that students took to exit the course was 1.57 semesters.

We have compared the performance in College Algebra of students exiting MATH 0099 with the performance in College Algebra of students exiting Learning Support in the USG overall and in USG State Colleges. The results are summarized in the table on page 6.

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Preparing Students for Success in College Math – A Design in Progress

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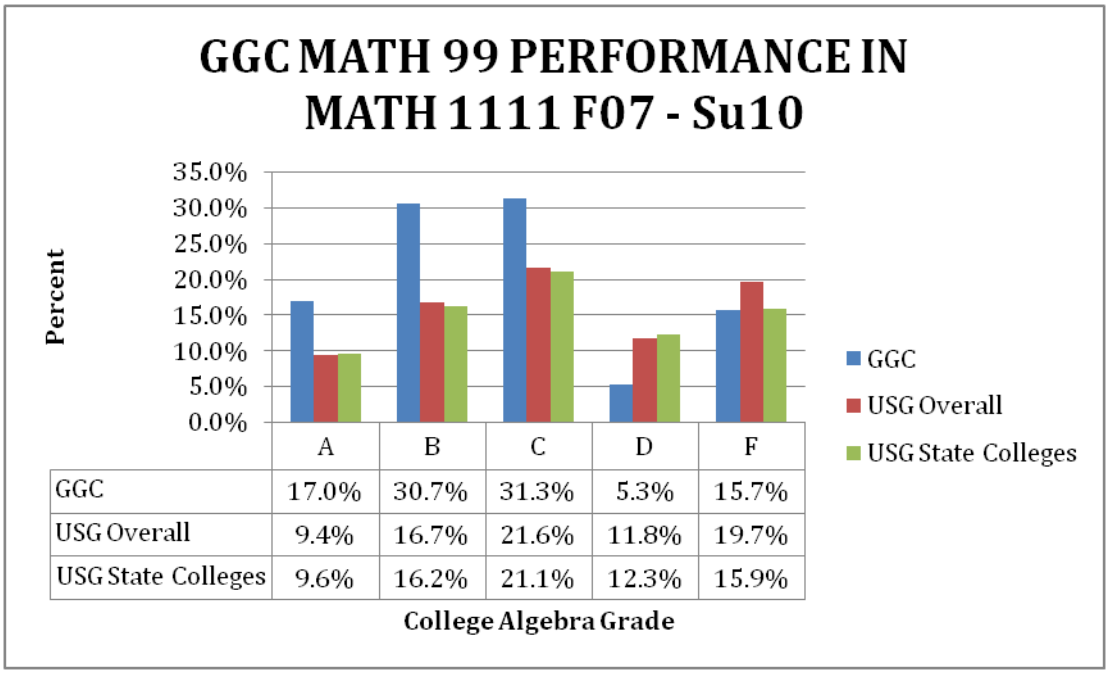

	A	B	C	D	F
GGC	17.0%	30.7%	31.3%	5.3%	15.7%
USG Overall	9.4%	16.7%	21.6%	11.8%	19.7%
USG State Colleges	9.6%	16.2%	21.1%	12.3%	15.9%

Overall, the course design is working well for the students at GGC. Our rates of A's and B's are almost double the rates of the University System.

In Fall 2010, the course was modified and now includes a full-time tutor in the classroom along with an instructor. This new "Tutors in the Classroom" (TiC) initiative was put in place to address the need for increased class sizes due to the rapid increase in enrollment. So far, the program is working well. We will continue to monitor the exit rates and the preparation of our students for college algebra. We will also continue to modify the course with the success of our students in mind. At GGC, we see MATH 0099 as a design in progress.

Send GMATYC Newsletter articles
to
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Visit us online at
www.gmatyc.org

37th AMATYC Annual Conference

Austin, TX

November 10-13, 2011

Conference Theme: Shootin' for the Stars

http://www.amatyc.org/Events/conferences/2011Austin/index.html

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