

DMC Newsletter May 2008

The Developmental Mathematics Committee of AMATYC!

Chair's Welcome by Jack Rotman

Thanks for your participation in the Developmental Mathematics Committee (DMC). We are doing important work together!

This Newsletter has four items submitted by members, as well as some reports and other items from me. Thanks for contributing!

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"We need Projects for Developmental Mathematics Students"

by Gowribalan "Ana" Vamadeva (University of Cincinnati)

Some Colleges have a laboratory component tied to their developmental math classes that ranges anywhere between 25 to 50 minutes in length conducted twice a week. Learning Assistants and Teaching Assistants usually administer these labs, and this session is primarily used to practice and reinforce the skills and concepts that was taught in class.

Although I am a big proponent of this structure, I still feel that in addition to labs in class, developmental students will be better served by a requirement to complete projects outside of classtime in a group environment. Although projects are universal at the Pre Calculus and Calculus courses and above, there has not been much effort by educators, to promote the completion of appropriate projects to successfully complete a developmental Math curriculum. If we increase the rigor of our classes within the restrictions of the adopted curriculum, I feel in the long haul, students will learn and appreciate mathematics better. Completion of projects would involve deeper thinking and would better develop their critical thinking abilities, along with a better preparation for the workforce with success in a team environment.

To better promote and motivate students in learning developmental mathematics, we must do more than teach the same material over and over again. Although changing of delivery methods and styles could positively affect these students' learnings, it is not sufficient. Getting them to think more than what they believe they can do, will help them become successful in learning Mathematics in general. Projects will encourage them to think independently and using cooperative learning methods will be a valuable learning experience for all.

I hereby call all of us in the the developmental mathematics community to devote time and attention to this matter, and, develop projects that can be used outside of class in developmental mathematics courses ranging from Pre Algebra to Intermediate Algebra.

Extra Credit Assignments

by Dan, Sheldon of Southwest Tennessee CC

The purpose of extra credit #1 is to demonstrate proficiency with direct proportions. A map relies on a direct proportion. In the legend of the map is a line which describes the number of miles to the inch. The students will obtain a map and measure the straight-line distances in the problems and then solve a direct proportion. This exercise is conducted in an Elementary Algebra course. To see the handout (MS Word format), use [Handout for Proportions & Map](#); to see the solutions, click here [Answers for Proportions & Map Activity](#)

The purpose of extra credit assignment #2 is to develop familiarity with the graphing functions (top row of buttons) on the graphics calculator (TI-83 or TI-84). The students are provided some simple instructions (separate handout) and then are asked to observe how slight changes (e.g., $y = x$ compared to $y = x - 3$ or $y = 2x$; $y = x^2$ compared to $y = \frac{1}{2}x^2$ or $y = (x + 5)^2$; etc.) affect the graph. This assignment can be used anytime students are becoming familiar with the graphics calculator, probably in one of the algebra courses. To see this handout (MS Word format), use this link [Handout for Function Parameters](#) ; to see the solutions, click here [Answers for Function Parameters](#)

Homework Idea

by Susan Martin, Diablo Valley College & Las Positas College

I have found a homework policy that works well. If a students earns an A on an exam they are exempt from turning in all homework for the next exam.

The students love this policy (even the ones who never earned an A.) It reduces the appearance that “I am making them do homework just for the heck of it”. It gives them something to strive for. “A” students are not burdened with more work than they need to do to pass the class. And it provides a great life lesson for those who work real hard to earn an A and thus a homework pass, then don’t work and do poorly on the next exam.

Connecting with K-12 Mathematics: A Case Study

by Gail Burkett, Palm Beach Community College

“The Exit/Entrance Dilemma”

The K-12 school system is one of the largest in the State of Florida. Most of us would think that it should also have the budget and resources to be highly successful not only in graduation rates, but also in the percentage of students not needing remedial math upon entering the local community college. Not so. Over 50% of the incoming high school graduates test into Prealgebra or Introductory Algebra, the non-credit classes.

So when the Palm Beach County math curriculum administrators contacted Palm Beach Community College to see what could be done to decrease the number of students needing

remedial math in college, we were thrilled. We immediately identified three glaring problems:

- Testing and placement issues – In 10th grade, students are given the (Florida Comprehensive Assessment Test) FCAT. A passing score on the FCAT earns a student the right to graduate high school, but recent studies have shown that the required score does **not** indicate college readiness. Upon entering PBCC, students are then given the CPT placement test, which is **very** unlike the FCAT. Much effort is invested in preparing students for the FCAT, but they are not prepared for the CPT.
- Calculator use – The State of Florida requires incoming college students to demonstrate basic skill proficiency without using a calculator. In contrast, the State also requires students graduating high school to be proficient with a calculator. As a result, most students in our state have used one for even the basic operations since at least 7th grade, and are further permitted to use one while taking end of term exams and the FCAT. Since PBCC does not allow calculators for the arithmetic portion of the CPT, incoming students are not prepared for the skills driven problems of the CPT and cannot make it through the basic arithmetic portion of the test without using a calculator.
- Math course scheduling – Many students are not required to take math in their senior year of high school and subsequently forget many of the details required to successfully test into credit math.

The biggest surprise to the school board administration was the calculator issue on our placement tests and in our prep math classes. The administrators added that many curriculum issues were in the process of being revised. We were delighted to hear of plans to reduce the number of objectives covered in each grade, replacing these with a limited number of 'benchmarks'. An example given was that 4th grade math now has 83 objectives for the year, lots of topics with very little depth. It is being replaced with 19 'benchmarks', therefore, making the coverage of those skills more in depth. The overall benefits of these changes may take years to realize, but the focus on mastery instead of exposure can only prove successful.

Preliminary action by the school board included creating sections of the Algebra 1, Algebra II and Geometry finals for students to complete without using a calculator. This is in contrast to the current practice which permits calculator use for the entire exam. This will force students to remediate basic skills throughout the year. Also, administrator are considering creating a CPT like test will be given to appropriate students at the end of their junior year. If their results show a lack of basic skill mastery, remediation will be given during their senior year.

The Palm Beach County School's math administrators should be commended for their efforts to stem the flood of incoming prep math students. Their efforts will prove beneficial to thousands of students in the coming years.

DMC Regional Representatives

by Jack Rotman

The new AMATYC Academic Committee process involves the appointment of 8 Regional Representatives to each committee. For the DMC, these people have volunteered and have

been appointed by AMATYC:

Akst	Geoffrey	NY	gakst@nyc.rr.com	North East
Ellis	Wade	CA	wade_ellis@westvalley.edu	West
Feenstra	Jennifer	GA	jfeenstra@gsc.edu	South East
Love	Marilyn	WV	marilyn.love@mail.wvu.edu	Mid Atlantic
Mansky	Cheryl	OH	mansky_c@hocking.edu	MidWest
Rhodes	Pat	OR	prhodes@tvcc.cc	North West
Shotwell	Jeanette	TX	Jenny.Shotwell@ctcd.edu	South West
Storey	Eleanor	CO	eleanor.storey@frontrange.edu	Central

These Regional Representatives are providing valuable assistance to the DMC; I have conferred with them on the direction for the DMC and on specific projects ... and I appreciate their help!

Traveling Workshop in Developmental Mathematics

By Jack Rotman

We continue to be optimistic that the DMC will be able to create a Traveling Workshop for our colleagues.

These are the current volunteers for the DM TW:

Cheryl Mansky, Dana Calland, Eleanor Storey, Gail Burkett, Judy Giffin, John Savage, Judy King, Kathy Moore, Pat Rhodes, Shanna Goff, Sonia Mihok, Suzanne Williams
Gail Burkett has agreed to lead the project. We can still use help with this project (we need lots of input, ideas, and expertise). If you are interested, contact either Gail or Jack.

Network and Sharing Session ... Returns to AMATYC Conference 2008 (Friday, November 21 from 2:15 to 4:15pm)

Our proposal to host a "Developmental Mathematics Network & Sharing" session was approved for the conference this November (Washington, DC). The DMC hosted this session for several years, and this is a return to the popular session.

The structure is like this ... we identify a few 'hot topics' in the profession, and a label discussion table for each one. Those attending start with one topic, and stay with it as long as they like. There is no agenda or program; this is direct professional-to-professional networking focused on getting answers and sharing information. The session runs from 2:15 to 4:15pm on Friday (November 21).

Here is a list of possible "hot topics" (we may not use all of them):

- Content in Algebra courses;
- Mastery Learning;
- Balancing Procedure, Concept, and Application;
- Online & Distance Learning;
- Supporting Health Occupations and Science Courses;
- Learning Technology: Calculators, Computers, Online;

Connecting with K-12

If you have a suggestion for an additional topic, please share it (with Jack or Gail) even if you are not able to attend the conference.

Themed Session for Developmental Mathematics

For the Las Vegas (2009) conference, the DMC is hoping to offer a themed session. A themed session focuses on one topic of interest and offers a series of short presentations. A typical themed session runs 2 or 3 hours, so AMATYC needs to monitor how many themed sessions are offered at each conference. For us to have “our turn” at the 2009 conference, we will need to identify a theme, a leader, and the set of presenters (6 or 9) by September 2008.

At this point, the process starts with people indicated if they are interested in working on the themed session planning – picking the topic (theme) and eventually identifying presenters. **If you are interested, just let Jack know!**

Developmental Mathematics “Focus Conference”

By Jack Rotman

The DMC presented a concept paper to the AMATYC Executive Board for a national focus conference on developmental mathematics. At the recent Spring Board Meeting, this motion was approved:

Motion the AMATYC board supports the spirit and themes of the Developmental Mathematics Committee Concept Paper: Developmental Mathematics “New Life Conference” 2008, and recommends that Jack Rotman, Chair of the Developmental Mathematics Committee, and Mary Kay Abbey, AMATYC Grants Coordinator, explore funding opportunities for the national Developmental Mathematics Committee forum/conference.

will be working with Mary Kay Abbey over the next several months to explore possible funding sources. (Shall a bunch of us contribute our “economic stimulus checks”? No, I think not! ☺)

Highlights of the current draft include:

- Rationale (developmental mathematics, nationally, remains relatively unchanged.
- Prior Attempts (local or state efforts, limited impact; no recognized ‘models that work’)
- Why the Old Approach Did Not Work (faculty isolation, lack of a shared vision, administrative issues)
- Focus Conference (two days, specific outcomes, plan for dissemination)

We do not have any dates set, as the funding needs to be established first. If you have any suggestions for this activity or comments to the highlights listed above, contact Jack Rotman. What do you think is working well in developmental mathematics? What needs to be ‘fixed’?

Even though we do not know much at this point about where this will end up, I wanted to keep the DMC membership informed.

The Newsletter and Website

Consider what you could contribute to a future Newsletter.

“Contributions” does not mean “hours of work”. A contribution might be 25 words describing a cool website you’ve found. A contribution might be 50 words recommended a book you’ve read recently (related to math education). A contribution might be 100 words outlining something that seems to “work” for your students in the classroom or online. Just send your contribution to rotmanj@lcc.edu.

The website is doing well. The “Links” page is updated ... the Newsletters are posted ... and there is an electronic DMC membership form.

DMC Membership Form

If you know of anybody who might be interested in joining our committee (and if they belong to AMATYC), they can go to our web page to complete a membership form: [Link to Online DMC Membership Form](#)

Future Newsletters

The chair (Jack Rotman) is currently editing the newsletter. If you want to get involved with this part of the committee work, send him a note.

The next DMC newsletter is likely to be sent during August 2008; submissions are welcome!!

Official Leadership of the Developmental Mathematics Committee of AMATYC:

Subcommittee Chairs:

Gail Burkett
Instruction & Faculty Development
burkettg@pbcc.edu

Judy Giffin
Content, Assessment, & Research
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Chair of the DMC

Jack Rotman
[send email to Jack](#)

Liaison to AMATYC Executive Board

Jane Tanner
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