

THE DEVELOPMENTAL MATHEMATICS COMMITTEE OF AMATYC

October 2009

HOT TOPICS :

- > **Developmental Mathematics Symposium at the AMATYC Conference on November 13**
- > **Traveling Workshop for Developmental Mathematics**
- > **New Life for Developmental Mathematics Project and Wiki**
- > **New, faster curricular pathways from developmental mathematics directly to statistics**
- > **Developmental Mathematics Mission Statement**

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Newsletter Editor:
Jessica Craig
Jessica.Craig@gpc.edu

**CHAIR'S REPORT
JACK ROTMAN**



Greetings!

This has been an active year for our committee, in three major areas. First, we have a Developmental Mathematics Traveling Workshop strand, directed by Eleanor Storey; there is a separate report in this newsletter. Second, the New Life for Developmental Mathematics Project was launched and continues the work; see the separate article for more details. Third, there is a Developmental Mathematics Symposium at the Las Vegas Conference ... featuring Rosemary Karr (past-president of NADE) and me.

This Symposium is related to the New Life project – although the project will continue for some time, we already have some “products” that can be used as the basis for improving developmental mathematics for our students. The general session for the Symposium (November 13) will include opportunities for discussion; the workshop session (November 14) has a dual focus – some atten-

dees will work on implementing new models, while others will discuss the ideas and provide more feedback.

Because of our project, AMATYC was included in an important meeting that was held at the Carnegie Foundation for the Advancement of Teaching (Stanford, CA) in July. Both Rikki Blair (AMATYC President) and I were included, along with about twelve other professionals representing NCTM, MAA, ASA (American Statistical Association), and others. One of those attending was Uri Treisman, who delivers our keynote speech at the Las Vegas conference (November 12). The focus of this meeting at “Carnegie” was the possibility of a new curricular pathway that (in 2 semesters) takes students from a beginning algebra level to (and including) a college-level statistics course. Feel free to read that last sentence again ... the thought is that some ‘just in time’ remediation of skills, limited to those areas that are needed for

statistics, can be accomplished in one semester. A few people are already piloting this pathway, and at least one large grant is being funded soon to expand the use of this approach.

Also because of the project, I asked the AMATYC Executive Board to appoint me for another term as DMC chair. Normally, chairs of AMATYC committees are limited to two terms (total of 4 years). Considering our project, and the re-structuring of the AMATYC committees in 2007, the Executive Board graciously agreed to keep me in this position. However, be prepared to have me politely tap you on the shoulder sometime in the next year – the DMC will need to have a new chairperson in 2011. Already interested? Let me know!

May you have a successful and rewarding semester, and may all your students find their way in mathematics.

NEW LIFE FOR DEVELOPMENTAL MATHEMATICS . . . A REPORT

Jack Rotman, Project Leader

In the last newsletter (http://devmath.amatyc.org/newsletter/may2009_dmc_newsletter.pdf) I gave a history (to that point) of the New Life project. That report identifies the Steering Team members, as well as participants in the online community (the wiki).

The “New Life” online community continues to work; the address is <http://dm-new-life.wikispaces.com/>. Anybody can read the documents there, and I encourage you to spend some time looking it over. If you don’t have much experience with a ‘wiki’, note that there are various pages ... each page has a document which members can edit, and there is also a discussion area for each page. You are free to read any of this (nothing is secret); members of the community are able to post comments and suggestions.

The wiki pages now contain these items:

- Mission Statement for Developmental Mathematics
- Student outcomes within 3 core areas (based on the mission statement)
- A new pathway concept for developmental mathematics
- Reference materials (reports and resources)

Nationally, other projects which are consistent with our project are being launched. Politically, various government bodies (both federal and state) are indicating an interest in collaborating on solutions; foundations are primed to provide money. Change is in the air.

As an example of these various forces converging, we were able to have a focused meeting of 15 AMATYC members (active in the online community) in Seattle (July 2009). The money for this 2.5 day meeting came from the Monterey Institute for Technology and Education (MITE; see <http://www.montereyinstitute.org/>); the funding source for this grant was the Bill and Melinda Gates Foundation (<http://www.gatesfoundation.org/>). MITE provided support and facilitation (by Ruth Rominger) as well as funding; our Project was able to determine the use of the time. Participants in Seattle were:

- Kathleen Almy
- Rikki Blair
- Laura Bracken
- Sadie Bragg
- Connie Buller
- Rosemary Karr
- Rob Kimball
- Jeff Morford
- Julie Phelps
- Pat Rhodes
- Jack Rotman
- Myra Snell
- Jane Tanner
- Janet Teeguarden
- Linda Zientek

The group developed a specific pathway design, and considerable details for the initial course in this model. The Symposium in Las Vegas will incorporate several outcomes from the Seattle meeting.

What’s next? What comes after “The Symposium?” It is important to understand the long-term nature of this process. We arrived “here” after decades; solving this problem and getting to a better place will not happen in one year. AMATYC is looking for opportunities to provide the process and structure to make fundamental change a reality; it is likely that this will include collaborating on some of those grants and projects being started by others, and we may have our own grant as well (or several). Stay tuned – both in future DMC Newsletters and in the online community (<http://dm-new-life.wikispaces.com/>). We will need your help, and the involvement of many people, to make progress.

The Developmental Mathematics Mission Statement

Developmental mathematics programs exist in order to prepare students for collegiate mathematics courses, for other courses requiring a mathematical foundation, and for general academic success based partially on quantitative literacy. These developmental mathematics programs will allow flexibility for students, and enable students to consider additional & higher academic goals.

ARE WE WASTING TIME TEACHING TOO MUCH?

[Ana Vamadeva](#), College of Applied Science, University of Cincinnati

Regardless of how your developmental Algebra curriculum is structured, one can be certain Factoring is covered before the introduction and solving of polynomial equations. This topic most likely is covered in your Introductory Algebra/ Elementary Algebra/ Intermediate Algebra classes. I fully support covering this important topic. It is a necessary and a useful skill to acquire to help students not only solve equations or simplify rational expressions, but also to establish a way of thinking logically and to convert a difficult task into an easier task. It helps with processing and reasoning. However, are faculty spending too much time letting their students master the more sophisticated factoring problems in a developmental algebra class or for that matter even in a College Algebra class?

Many textbooks these days come up with the most bizarre factoring problems one can handle, and faculty are compelled to cover these in their developmental classroom curricula. Should we make student learn how to factor

$x^2 + 10x + 25 - y^2$? or factor $m^2 - 4m + 4 - n^2 + 6n - 9$? These are very nice problems and some of us get very excited when factoring them, but what is the purpose of making our students slog through these to fulfill their algebra deficiencies?

Likewise, rules of exponents, working with radicals, and rational expressions also produce too many skills for our students. I would not ask a developmental algebra student to simplify $\sqrt[3]{4} \cdot \sqrt{3}$, yet you find these problems appear in many developmental algebra textbooks.

Couldn't we developmental mathematics faculty spend more time on concepts rather than on these excessive skills. These students need to be motivated in their study of algebra and working problems of these types, I believe, only makes them dislike math more. I would rather teach more of the simpler mathematics that are meaningful for a deeper conceptual understanding than these sophisticated skills. Today many developmental algebra texts are of the traditional type. We should go beyond the scope of these books and do a more thorough teaching of concepts that underlie these skills. We need to make mathematics reasonable to learn and appreciate for these students. A curriculum that incorporates reasonable skills with somewhat rigorous concepts would make students more rounded and better able to communicate mathematics.

**DEVELOPMENTAL MATHEMATICS TRAVELING WORKSHOP REPORT**

[Eleanor Storey](#), Developmental Mathematics Traveling Workshop Strand Director

For the Developmental Mathematics Traveling Workshop, I spoke with Pat Averbeck (AMATYC Traveling Workshop Coordinator) about the following ideas:

- Advertising at the Las Vegas conference
- Possibility of having sponsors for workshops in Developmental Mathematics Technology. MyMathLab (Pearson) and Mathzone (McGraw-Hill) were mentioned. Pat will take care of contacting possible sponsors because he is familiar with the Traveling Workshop sponsor guidelines.
- Recruiting Traveling Workshop speakers from the conference Developmental Mathematics sessions
- Traveling Workshop possible strands: retention, course redesign, and technology in developmental mathematics.

REQUEST FOR INFORMATION

Pauline Chow, Mathematics and Computer Science Department Chair, Harrisburg Area Community College

I hope you all are having a good fall semester! A committee at my College that I am part of is investigating whether or not to consider a different way of handling the lowest level developmental courses. I am hoping to gather some information from you. I would appreciate your reply to several questions.

1. The following questions apply to the developmental courses offered at your institution.
 - A. How many levels of developmental math courses do you offer?
 - B. How many levels of developmental reading courses do you offer?
 - C. How many levels of developmental writing courses do you offer?
 - D. Are any of your developmental courses transferable?
 - E. Are any of your developmental courses, especially at the lowest level, offered as non-credit courses? If so, who pays for the course? What is its delivery format?
2. Do you have a minimum score required to take developmental courses at your institution? If so, what happens to students who test below that minimum score?
3. I am particularly interested in any information concerning students who are at the bottom level of your developmental courses. Who would be the best person at your institution to contact if I would have more questions?

Thanks for your help. I appreciate it greatly.

[Pauline Chow](#)

Mathematics and Computer Science Department Chair
 Central Pennsylvania Community Colleges
 HACC
opchow@hacc.edu

ADVICE WANTED ON NEW APPROACH AT HACC

[Sue Rosenberger](#), Assistant Professor of Mathematics, Harrisburg Area Community College

At HACC, Harrisburg Area Community College in PA, the Math Dept, in conjunction with the Developmental Educators Advisory Committee, has been looking at the students who place on the lowest end of the Accuplacer test in math. We are contemplating using the Federal Guideline for Ability to Benefit - below a 34 on the Arithmetic portion - for a new placement model for our math students. Currently, our students are placed first by the Elementary Algebra score, and then by the Arithmetic score. If below 40 in El. Alg. and below 40 in Arithmetic, they are placed into our lowest of four Dev. Math courses, called Basic Math (no signed numbers or equations).

We have developed a course that incorporates overcoming math anxiety and establishing study skills in math with working at your own pace in math within our Human Development Department. It has been an option for any student, but now we are suggesting that any student who places lower than 34 on the Arithmetic portion takes the

Human Development course. Then, toward the end of that class, the Accuplacer is given again. If, at that point, they still don't reach a 34, then they will be advised to take a course we hope to create that provides them with as much individual help as needed, along with intrusive advising. Many of these students have unrealistic academic goals and/or very complicated lives that interfere with their math success. They need advising not only in math skills but also in life skills, career goals, etc.

Does this sound workable? Has anyone successfully addressed this level of student? We have about 22,000 students on 5 physical campuses. This fall we have about 1300 students who placed into our Basic Math class. About 15% of them would be moved "up" to Pre-Algebra with the new guidelines, but the rest would be placed into the Human Development program.

DMC OFFICERS

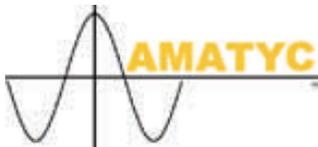
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[Jack Rotman](#)

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[Jane Tanner](#)

Newsletter Editor

[Jessica Craig](#)

**Opening Doors
Through Mathematics**

DMC MEETING AT THE LAS VEGAS CONFERENCE

Jack Rotman, DMC Chair

In other years, the DMC has met twice at the conference ... once on Thursday and once on Friday. This pattern allows the maximum number of people to become involved and informed of the work of the DMC.

For 2009, however, AMATYC is sponsoring the Developmental Mathematics Symposium (see p. 1 and 2). Because the Symposium involves 2 two-hour sessions, the decision was made to simplify the committee meeting time.

We will meet Thursday (November 12) at 11:30am to 12:20pm, with a focus on two primary topics:

Developmental Mathematics Traveling Workshop Strand

New Life for Developmental Mathematics Project

In addition, we will discuss other work our committee might undertake – based on shared concerns among our members.

<http://www.devmath.amatyc.org>

DMC REGIONAL REPRESENTATIVESNorth East [Geoffrey Akst](#)West [Wade Ellis](#)South East [Jennifer Feenstra](#)Mid Atlantic [Marilyn Love](#)Mid West [Cheryl Mansky](#)North West [Pat Rhodes](#)South West [Jeanette Shotwell](#)Central [Eleanor Storey](#)**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 at <http://www.devmath.amatyc.org/join.htm>

DMC NEW LIFE ONLINE COMMUNITY

Check out the documents on our New Life Online Community at <http://dm-new-life.wikispaces.com/>