

MATH SPIN NEWS

Newsletter of NADE Mathematics Special Interest Network Spring 2003

Welcome to our first electronic newsletter. As was announced at the 2003 NADE MathSPIN breakfast meeting, our newsletter is going to be delivered electronically: not only do we have to because of budget constraints, it will be safer for the trees and recycling centers. It is more convenient for all and still allows the capability of obtaining hard copy should members wish to print it. This is the case of most other SPIN groups: The Electronic Age is upon us!! We look forward to hearing from all of you as well as disbursing news from our MathSPIN from NADE. This appears to be the easiest way to do e-mail distributions to our membership; for this reason, be sure to keep us updated on your current e-mail address so that we can be in touch.

From the Chair:

Well, another NADE conference has come and gone. We had many wonderful sessions about what you are doing at your respective institutions. For those of you who missed it, Austin is a wonderful town, and we had beautiful weather in the 60s and even 70s during most of the conference. The redbud trees were beginning to bloom. Many of us were in for a shock flying home and getting stuck in airports for hours due to snow in the northeast.

The Math SPIN is the largest, and probably most active, SPIN group in NADE. Much of this is due to Thomas Armington, our chair for the past several years. Under his leadership we published the first *Best Practices in Developmental Mathematics* booklet. Tom has stepped down from his chair duties, but has agreed to edit the second volume. The second volume is under development now, and he is asking for new submissions. I want to publicly thank Tom for all the work he has done in making our SPIN a group which is, quite frankly, the envy of many of the other SPINs.

We want to welcome Diane Martling our new co-chair. Diane has some great ideas. Part of her duties will include putting together the newsletter. Please help her out by sending her articles for the newsletter. These don't need to be research-based. I will continue posting the newsletter on the web site and to the discussion group.

I thank you for entrusting me with the leadership of this group for the coming year. I don't know how I can fill Tom's shoes, but I can certainly try to walk in his footsteps.

Daryl Stephens

SAVE THE DATES!!!
NADE 2004 for the 28th Annual Conference :
Developmental Education: Gateway to Success St. Louis
March 10-14, 2004
St. Louis, MO

Greetings from the other half of D²: co-chair

My name is Diane Martling and I am the co-chair of our Math SPIN. I teach developmental mathematics at William Rainer Harper College in Palatine, IL, a suburb of Chicago; my duties also include being the coordinator of the Math Lab which not only provides a place for tutoring students in any developmental math class but also provides the opportunity for students to take developmental classes on a modularized basis in an individualized format.

Daryl and I will try our best to fill Tom's footprints as he moves on to other adventures. I too would like to thank Tom on behalf of every past and present SPIN member for the leadership and progress made with his tenure by this, the largest of the SPINS in NADE. We have enjoyed his first *Best Practices in Developmental Mathematics* booklet and are looking forward to the second one coming this summer. Thank you for your support and for also entrusting me with the responsibility of writing this newsletter and my cohort Daryl continuing as the co-chair & Webmaster—I would be lost without both Daryl and Tom's encouragement and help.

NADE 2003 in beautiful Austin, Texas provided great opportunities to share ideas and investigate new possibilities, all without reinventing the proverbial wheel. Both Math SPIN sessions were great—we will continue to support any and all Math talks. It has been said that math professors are different from any other department on a college or university setting. Why? They are willing to share, without reservation, observations, worksheets and handouts that have worked or not worked with colleague, rather than hoarding and worrying about the “my property” syndrome. NADE was a great place for beginning to new friendships and connections and the strengthening of old ones. The sessions helped invigorate us all and sent us back to our institutions of higher learning refreshed and ready to face the challenges with new vigor. We also learned how to talk and not say “I, me, my, our, and we” which really challenged all of us. Austin provided us a warm welcome in more than one way, especially for those of us who left 4° F degree with several inches of snow weather to arrive in 69° F, even with the occasional shower.

Diane Martling

At the MathSPIN breakfast, it was determined that we would sponsor 2 sessions at the NADE 2004 conference in St. Louis. One will be on technology which Diane is organizing; if anyone is interested in helping with this presentation, please contact me as soon as possible at dmartlin@harpercollege.edu as I will be doing the writeup for the proposals and want to include names. Organizers are also looking for volunteers to help with the conference. Please help if you can.

Professional Development: Technology Short Course

The Teachers Teaching with Technology College Short Course Program based at The Ohio State University is now offering a developmental algebra curriculum & pedagogy DEV short course available as a free 1-3 day workshop on your campus (15 participant minimum). Course instructors include Debbie Crocker, Joe Fiedler, Peg Greene, Roseanne Hofmann & Bill Thomas. For more information and/or an application, please contact Ed Laughbaum at <elaughba@math.ohio-state.edu>. The presenter's expenses & honorarium are paid by a grant from Texas Instruments to Ohio State University. Diane attended T³ this year in Nashville and many sessions were geared to developmental mathematics. Unfortunately, the 2004 T³ conference is at the same time as NADE in 2004.

Review of sessions from NADE 2003

Modernizing the Developmental Mathematics Curriculum **by Thomas Armington, Felician College**

Two sessions at the NADE 2003 conference addressed the question of whether or not there is a need for modernizing the developmental mathematics curriculum. The first, a presentation by Roberta Yellott entitled “Relevant, Necessary, or Obsolete ... Examining Content in Developmental Mathematics,” examined whether specific topics in developmental mathematics are obsolete and should be eliminated from the curriculum. Discussion revolved around such topics as rationalizing a denominator and factoring polynomials, with the central question being “are there reasons why students need to possess these skills or do these skills continue to be taught simply out of tradition?” Some session participants argued that it is necessary to continue teaching such topics because they are foundational to performing operations at the calculus level. Others argued they are irrelevant to the vast majority of developmental students since most are *not* continuing on to calculus. With the prevalence of calculators, the need for manual computation with decimals was also questioned. Advocates argued it reinforces basic skills while opponents argued the skills are obsolete.

The second session was a SPIN-sponsored discussion on “Modernizing the Developmental Mathematics Curriculum.” This session examined different curricular approaches currently in use and attempted to elicit discussion about options for modernizing what we teach. There are three curricular models currently in broad use in developmental mathematics. The first emphasizes the teaching of symbolic manipulation. At the arithmetic level, this involves a primary focus on teaching the mechanical techniques for performing decimal, fraction, and percent operations. At the algebra level, it involves teaching techniques for simplifying and evaluating variable expressions, solving first-degree equations, performing monomial and polynomial operations, factoring, and graphing linear relationships. The second model covers many of the same mathematical concepts as the first, but within the context of a problem-solving approach. From a curricular perspective, this model is distinct from the first in that the primary focus is on teaching problem-solving skills rather than symbolic manipulation skills; the symbolic skills necessary for solving problems are integrated as a by-product of the problem-solving process itself. The third model employs a function approach at the algebra level. While some mathematical concepts overlap with those taught in the first model, the curriculum is distinct in that it emphasizes the relationship between tabular, graphical, and symbolic representations of data, the properties of functions, and interpreting the meaning of graphical results. Although it is not necessary, this model usually employs graphing calculators as the primary teaching tool.

While most of the discussion in the second session revolved around the three models described above, one participant also discussed incorporating academic skills into the curriculum. While academic skills are often taught at tutoring centers or other educational support offices, a few colleges build this component into the curriculum itself. Activities designed to strengthen note-taking, textbook, vocabulary, or other academic skills are employed in the classroom.

Unfortunately, finding new ideas about curricular change is a difficult process. Our discussions seem to get caught up in debate about whether using a function approach with graphing calculators is better than teaching a traditional curriculum of symbolic manipulation. Our vision needs to be broader than either approach. Little discussion has addressed changing the curriculum to make it more relevant to the real-world and workforce needs of 21st century students. The second model comes closest to addressing this concern by placing the math that we teach into a real-world context. Primary applications of arithmetic and

algebra are found in the sciences, business, consumer economics, and social demographics. Our curricula should establish the relevance of what we teach by connecting course concepts to these and other real-world topics. Still unaddressed, however, are Willard Daggett's¹ questions about the changing nature of the mathematics we use. With the information revolution in full swing, shouldn't we be teaching more data and analytical processing skills? With the nanotechnology revolution hot on its heels, shouldn't we also be teaching more mathematical knowledge dealing with size, metric measurement, units of measure, and the like? Hopefully, those who are taking steps to modernize their curricula will step forward and share new ideas with the rest of us.

¹ Dr. Willard Daggett's keynote address at the NADE 2002 conference provided the impetus for the SPIN-sponsored session on Modernizing the Developmental Mathematics Curriculum. Daggett is President of the International Center for Leadership in Education.

NADE Math SPIN: Information about our Math SPIN
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Web Site Information

<http://www.etsu.edu/devstudy/spin/>

Through this website you can obtain:

- Contact info on the SPIN officers
- SPIN Newsletters dating back to Nov, 1997
- Upcoming events of professional interest
- Links to over 140 math and developmental web sites of interest
- Annual and quarterly reports sent to NADE
- Publications contributed by SPIN members
- Information about the MathSPIN e-mail group, how to join, and how to access the archives
- Information about the *Best Practices in Developmental Mathematics* series

All newsletters will be published online from now on. Announcements about new newsletters will be sent to the e-mail discussion group [listserv], so you need to join the listserv to maximize your benefits and keep current with MathSPIN!

To join the e-mail group: e-mail mathspin-subscribe@yahoogroups.com

Please contribute publications, ideas, links, presentation handouts, etc., to:
E-mail Webmaster Daryl Stephens at stephen@mail.etsu.edu

Newsletter articles and information can be sent to Diane Martling at: dmartlin@harpercollege.edu or to Daryl at stephen@mail.etsu.edu [We e-mail weekly so we stay in contact.]

We need each and every member to participate to help make us not only the largest SPIN but also the best!!
