MATH SPIN News

Newsletter of the NADE Math Spin *Spring 2002*

Time for a change?

"Why do we teach what we teach?" was the question posed by Dr. Willard Daggett, whose talk examined curricular issues in higher education. In discussing current academic trends in English, mathematics, and the sciences, Daggett suggested that colleges are *not* teaching this generation of students the skills they need because the focus is on curricular models of the past rather than future. In essence, he argued that the curricular skills emphasized in prior generations are of declining relevance to students of the current generation as they prepare to enter the modern world and workforce.

To illustrate his point, Daggett described advances in DNA coding which will become available to the public within a matter of years. Over-the-counter kits will enable individuals to perform DNA self-tests indicating genetic disposition toward some 4000 conditions ranging from baldness to various forms of cancer. That such information will become commonplace will require the average person to be competent at multiple levels of information processing. Large-scale societal changes of this sort, he says, necessitate curricular change. And while the business sector responds to this challenge with foresight, the academic community continues to focus on models of the past.

Interestingly, Daggett suggested that developmental educators should be at the forefront of curricular innovation rather than waiting to follow the lead of the academic departments they service. In his view, many recent innovations in teaching (such as the shift in focus from teaching to learning and the growing emphasis on environmental factors in learning) have been born at the lower levels of collegiate study and grown upward rather than vice-versa.

Daggett suggested two paradigms for understanding curricular reform needs. The first can be described as a hierarchy of academic skills. At the bottom is knowledge, followed by the ability to apply knowledge *within a specific discipline*, then the ability to apply knowledge *between disciplines*, the ability to apply knowledge to *predictable real-world problems*, and at the highest level the ability to apply knowledge to *unpredictable real-world problems*. Within this paradigm, he contends that while the current work environment demands that graduates function at the two highest levels, most college instruction takes place at the two lowest levels. In other words, most colleges teach knowledge, but fail to teach students how to use that knowledge in the real world. In a second paradigm, Daggett went one step further and questioned whether much of what is being taught is even relevant to the world in which our students live. In this paradigm, he likened the typical college curriculum to the keyboard of a typewriter. The original placement of characters on the keyboard was intended to slow typing speed because if typists typed too fast their machines would jam. However, as the technology advanced and machines became capable of faster speeds, the placement of keyboard characters did not change with the technology. The analogy is obvious - while societal and workforce needs have changed, college curricula have not changed with them. What many of us are teaching, he suggests, is no longer relevant, and we are not justified in continuing to teach the same old thing just because that is what we have always taught.

It is important to emphasize that he is speaking about curriculum, not methodology. While we have changed the way in which we teach mathematics, much of what we teach has remained the same. As he suggests, maybe it's time for that to change too.

Dr. Willard Daggett is President of the International Center for Leadership in Education, which has offices in New York, Tokyo, and London. His goal is to promote educational reform that leads to the effective teaching of skills and knowledge that are relevant to the society and work environment into which college graduates are currently entering. He has held faculty and administrative positions at two- and four-year liberal arts colleges and universities, and has served in various management positions at the New York State Department of Education. He is also author of 12 textbooks.

Plans for the Upcoming Year

It was great to see the high level of participation at this year's SPIN meeting. Over 50 people were in attendance despite its scheduling at the end of a long day. While our focus on business items was unavoidable, it is apparent that most of us come to these meetings to get and share teaching-related ideas. This year, in an attempt to develop a forum for more discussion and idea sharing, the SPIN sponsored a separate panel discussion. Feedback received at the meeting confirmed that those who attended the discussion appreciated having this opportunity for open exchange of ideas. In fact, the SPIN voted by a large majority to sponsor two discussion forums at next year's NADE conference. The first will focus on Dr. Willard Daggett's call to revise the developmental mathematics curriculum to reflect workforce needs rather than traditional academic topics (see page 1). We hope to use some of Daggett's materials as a discussion starter for this session. The second will highlight "best practices" teaching methodologies. For a number of years, SPIN members have requested a forum of this sort for sharing teaching strategies that increase student success. I will need help with these proposals. If you would be interested in working on either, please let me know.

Other items discussed at the meeting were the SPIN listserv and web site. The listserv has been used actively over the past few months for discussing various issues in developmental mathematics including the "big" ideas in Developmental Algebra and the relationship between students' reading ability and their ability to solve contextual ("word") problems. In recent weeks, information about textbooks and job openings has also been posted. As for the web site, Daryl Stephens has done an excellent job of maintaining and updating the site as a resource for information on developmental mathematics. He continues to ask for your contributions. If you have information, papers, research results, instructional materials, or other such items you would like to post on the web site, please contact him at <stephen@etsu.edu>. Also, if you are aware of other sites related to developmental mathematics, please send Daryl the addresses so that he can create links to ours.

The meeting also highlighted three poster presentations by SPIN members (summaries on page 7). If members continue to take the initiative to put together "mini presentations" of this sort, perhaps next year we can shorten the business component of the meeting and spend even more time exchanging ideas and information. Isn't that what we are really all about?

Join the Math SPIN Listserv

If you are not a member of the Math SPIN Listserv, you are missing out on perhaps the single, most valuable component of the SPIN. The listserv is basically an e-mail list through which information, announcements, etc. are sent out and received by those on the list. Listserv members can post information and items they would like to share with others and will receive all information that is sent out by other listserv members. It is an *excellent* medium for maintaining regular contact with the SPIN membership. It also provides a forum for discussing developmental math issues, posting job announcements, or seeking information from others.

Although the listserv is managed by Yahoo!Groups, it is *not* a public directory and can be accessed only by listserv members. This arrangement offers us a high degree of privacy. As the listserv generates between 5 and 20 messages a month, you won't be inundated by unwanted e-mail either. You also have the option of receiving your messages in digested form (all mail for the day is sent in a single message).

To join the listserv, send a blank e-mail message to mathspin-subscribe@yahoogroups.com. Yahoo!Groups will then ask you to confirm your request. After doing so, you should receive confirmation of your membership within a few days (if you don't, contact Roberta Lacefield at mathspin-owner@yahoogroups.com for assistance). We hope you will join our discussions by becoming a listserv member.

Panel Discusses Placement and Tracking Student Progress

SPIN members Linda Clark of Middle Tennessee State University (MTSU), Diane Martling of Harper College, and Susan McClory of San Jose State University (SJSU) served as panelists in a discussion on the topics of Placement and Tracking Student Progress. The panel's presentation, which was followed by open discussion, compared different types of placement practices and examined how tracking student success relates to placement. With some variations, two basic models of placement were discussed. The first was *mandatory placement of students into different levels of course work* based on the results of placement testing. The second was the use of placement testing for *determining which students were best suited to different instructional formats* employed in developmental courses.

All three colleges represented by the panelists use cut-off scores on SAT, ACT, or similar tests to exempt newly admitted students from required placement testing, but use other commercial instruments for the actual testing. MTSU and Harper use the COMPASS test; SJSU uses the ELM test administered by ETS. In all cases, results of these tests are used for mandatory placement into developmental or college level courses according to individual student results. Harper has four levels of developmental course work -- Pre-Algebra, Elementary Algebra, Intermediate Algebra, and Geometry. MTSU currently offers three levels of developmental course work -- Pre-Algebra, Elementary Algebra, and Intermediate Algebra -- but plans to eliminate Pre-Algebra in the near future. SJSU offers a single, combined Elementary/Intermediate Algebra.

The SJSU program has several elements which distinguish it from the other two. First, students at California State Universities are required by state mandate to complete developmental course work in their first two semesters. SJSU has responded to this mandate by developing a single course curriculum that is offered in four different instructional formats. Following placement testing, the lowest two-thirds of the students are enrolled in a two-semester sequence, while the upper third is placed into classes covering the same material in a single semester. Within the lower group there are two instructional formats. The lowest quartile of students meets four days per week in classes of no more than 25. The rest of the lower group meets two days per week in lecture classes (200 students) and two days per week in discussion groups (25 students). The upper third of students covers the curriculum in one semester, meeting three days per week in lecture classes and two days per week in discussion groups. The top 10% are given the option of completing the course by independent study.

Another component of the SJSU program is its mastery learning requirement. The recent implementation of this requirement demonstrates how the tracking of student progress can be used to evaluate programmatic changes. The mastery requirement (70% proficiency on *all* tests) was first piloted in the spring of 2001 with students who had failed the first half of the sequence during the prior semester. This group was at very high risk since they would have to cover twice the material in half the time to remain at the university. With the introduction of common chapter tests that could be taken and retaken in multiple versions, the responsibility for mastering the material was placed back upon the students. The results of that semester were amazing, with a pass rate of 66% as compared to a best pass rate of 30% in prior semesters. Subsequently, the mastery requirement was extended to the rest of the developmental classes. With mastery learning also being implemented in last year's summer program, SJSU had a one-year pass rate of 88.7% for the 2000-01 academic year. The university is currently conducting a two-year follow-up study to determine the continuing persistence of its developmental students.

Harper College also employs different instructional models. Students placing into the lowest two courses are given the option of choosing between one-on-one or small group lab instruction, or a traditional classroom format. Enrollment in the classroom sections is limited to 30 students. The lab courses are broken down into three 1-credit modules while the classroom sections are taught as a single 3-credit course. In the lab sections, students are allowed an entire semester to complete each module, but may complete two or three modules during the semester. Mastery learning (90% proficiency on unit tests and 70% on the final exam) is used for the lab sections, but not the classroom sections. If necessary, there is some flexibility in moving students from one instructional format to the other during the semester. The upper two courses are required only for students in specific majors. Unlike SJSU, students at Harper sometimes take as long as 5 semesters to pass their developmental course work.

While following a similar placement procedure as SJSU and Harper, MTSU differs in that it is bound by testing and placement mandates set by the Tennessee Board of Regents. These include specified testing requirements and cut-off scores, and the use of calculators during testing. By choice, MTSU also administers pretests on the first day of class to provide students the opportunity to advance a level if for some reason their placement results were inaccurate. The pretests resemble the departmental final exams given in each course.

In addition to examining the relationship between placement testing and course structure, the discussion also touched upon the relationship between placement and students' success in subsequent courses. At Harper, data obtained by tracking student progress showed that there was no correlation between students' initial placement and their ultimate success rate in terms of graduation. While no other clear patterns were identified, there was consensus that more data on student success at subsequent levels of study was needed to understand the relationship between placement and retention. Perhaps the SJSU follow-up study will provide more insight into this relationship.

As could be expected, the discussion was cut short by time limitations and many questions were left unanswered. Are some placement instruments better than others? How does one decide which to use? Can the effectiveness of the placement process itself be measured by the degree of student success in the classroom? If not, how does one determine if current placement practices are adequate? The newsletter welcomes feedback or additional thoughts on these topics.

ANNOUNCEMENTS

Professional Development Opportunities

AMATYC Outer Banks Summer Institute

"Developmental Math Using a Function Approach"
Graduate credit is available for an additional fee.
<www.math.ohio-state.edu/shortcourse/>

Duck, North Carolina
June 9-14, 2002

ICTCM Professional Development Short Courses

"Using the Internet to deliver course content"
Graduate credit is available for an additional fee.
<www.ictcm.org> or (joanne.foster@aw.com)

Phoenix, Arizona
May 20-23, 2002

Burlington, Vermont
July 28-31

Math SPIN Directory

Every year following the NADE conference, the SPIN membership changes as we lose some members and gain others. The SPIN Directory will be updated in May to reflect these changes. However, as directories were sent out last June, the updated directory will only be mailed to new members. If you are not a new member, but would like an updated directory, please contact Tom Armington at the address below.

Math SPIN Web Site

The Math SPIN web site contains past newsletters dating back to 1997, publications submitted by SPIN members, and over 80 links to other sites of interest to developmental math faculty. The site is located at <www.etsu.edu/devstudy/spin/>.

Call for Papers

The Journal of Teaching and Learning invites submissions on topics of interest to developmental educators, learning assistance personnel, tutors, and others seeking a forum for discussing issues in developmental education. Contact Co-Editors:

Pat Hausmann (phausmann@owens.cc.oh.us)
Elsie Newman (enewman@owens.cc.oh.us)

Mathematics and Computer Education Journal will be publishing three special issues on Developmental Mathematics. The themes are -- Issue 1: Innovative Approaches, Issue 2: Incorporating Technology, and Issue 3: Reforming Pedagogy and Instruction.

Contact: Dr. Selina Vasquez (sv10@swt.edu)

Job Openings

One of the services provided by NADE is an electronic listing of current job vacancies in developmental education. If you are looking for a position in developmental math or would like to post information about an opening, visit the NADE job placement site at <www2.gasou.edu/nadeplacement/>.

Newsletter Items

The newsletter welcomes submissions of any kind that members feel are appropriate including announcements, teaching tips, articles, research results, etc.. Materials should be sent to:

Tom Armington
P. O. Box 199
Metuchen, NJ 08840
tmarmington@juno.com

NADE 2002 Highlights

In an effort to share the Orlando conference with those unable to attend, we have collected the following summaries of math presentations. SPIN members are invited to contact presenters for additional information. The newsletter thanks those who contributed to this effort.

Keeping Students Connected to Your Online Course

In an effort to make higher education more accessible, institutions are developing and offering online courses. These courses are attractive to many students because of the flexibility they offer. As developmental education classes are becoming available online via the Internet, educators that have taught these courses agree that student retention is becoming a concern. Instructors are forced to examine strategies that will keep students connected to their online courses.

This presentation focused on ways to promote retention of students enrolled in online developmental mathematics courses. Having developed online courses for algebra and geometry, the presenters shared several strategies that were designed to keep students engaged in their online courses. Procedures to promote retention and success start long before class actually "meets." Therefore, selective enrollment is one key strategy that is utilized. This includes requiring students to be enrolled only by permission of the department. Students are screened to determine if they have the academic prerequisites, the equipment, the technological skills, and the time to be successful in an online class. Other strategies include an orientation meeting designed to acquaint students with the technological components of the course, the avenues for effective communication with and between students, and the measurements used for assessment.

Presenters: Dr. Marva S. Lucas (mlucas@mtsu.edu)
Dr. Nancy J. Brien (nbrien@mtsu.edu)
Scott N. McDaniel (smcdanie@mtsu.edu)

Creating and Teaching Online Mathematics Courses

As colleges try to reach more students, they turn to creating online courses which can reach many students who would not otherwise be able to take college course work. However, online courses must be equal to the regular classes both in content and evaluation, and must have the support of the faculty and administration. Assuming the support of the administration, the faculty are usually supportive if the content and evaluation methods are in keeping with college standards. In the presenter's case, both are the same for online courses as for the regular classes.

Setting up an online course is time consuming. There are three basic components -- information, communication, and testing. Information includes creation of the syllabus, forms, student releases, class notes and study sheets. It also includes homework problems, projects, handouts and book assignments. Think about all the information given in the classroom that has to be conveyed in writing.

Communication includes telephone, e-mail, fax, instant messages, bulletin boards and chat rooms. For consistency, the college uses Web CT for chat and bulletin boards. Students are encouraged to interact through the bulletin board, chat, or by phone, or they may get together for study sessions with other students who live close to them. Of course, there are designated times for the bulletin board and chat periods during which the instructor is also available.

Testing takes place in various forms. Quizzes and take-home tests are posted online or faxed to students who then fax them back complete with all work. Tests and final exams are given in proctored situations. They make be taken at different campuses, a local high school, or a library. The main thing is that the test is given to the person taking the course, which requires a photo ID. In addition, the person administering the test must be a reliable proctor.

It takes a special type of student to take an online course. Personal discipline and self-motivation are essential. Besides having the necessary computer equipment, the student must be a self-starter and must be willing to correspond twice weekly for attendance purposes.

Though these courses are in their infancy now, it appears that both learning support and academic courses will have a completion rate of 50-65%. This is in keeping with the college as a whole.

Presenter: Mary Susan Hall (mshall@mindspring.com)

Self-paced College Algebra: Effective Learning Strategies

The Math Skills Lab is a non-credit mathematics course designed to focus on each individual student by offering a variety of learning experiences. Programmed instruction (textbook) is utilized as the basic structure for the class. Progress is measured by the successful completion of practice exercises and tests for each chapter. Each week, the Math Lab Director provides an overview of each chapter, keeping the class on a steady pace throughout the semester. Students, however, are allowed to finish chapters at their own rate (self-paced), as long as the exercises are completed and the tests are passed. This instills a sense of personal accomplishment and eliminates boredom. A tutorial software package accompanies the text for additional practice and is accessible via the Internet.

The problem that inevitably arises is that students in the same class are not studying the same material at the same time. To rectify this, student tutors (usually Math

Education majors) are hired as aides for each class. They answer questions or work on problems with students that are either ahead of the director or lagging behind.

Presenter: Barbara Ricci (ricci@rider.edu)

Restructuring Developmental Math Courses to Enhance Emotional Intelligence

Emotional intelligence is the aspect of intelligence that addresses the complex components of one's behavior. What is its link to the developmental math student? Research has shown that a high IQ is not the only predictor of success. The expansion of one's emotional intelligence is also a key ingredient of an individual's overall success in life. We can use this information to help our developmental students achieve success in their math courses. As faculty we have the ability to help students enhance their emotional intelligence, and in doing so become successful learners.

This presentation began with an explanation of emotional intelligence and its five domains (self-awareness, emotional management, empathy, social competence, and self-motivation). The presenter then showed the relationships between these emotional intelligence components and the developmental math student. For example, two components of self-motivation are self-efficacy and text anxiety. These are two enormous hurdles that many developmental math students continually face.

Next, the presenter shared practices that address the enhancement of emotional intelligence in a developmental math class. These included the following: recognizing the significance of instructors as emotionally intelligent role models; requiring journal writings to promote self-awareness and emotional management; implementing daily partner or group work exercises to build empathy, social competence and self-motivation; and including effort as a component of a student's final grade to increase self-efficacy, hope and optimism. Additional practices that enhance the developmental math student's emotional intelligence were also sought from participants and shared with the group.

Presenter: Denise Wilkinson (dwilkinson@vwc.edu)

What's a nice student like me doing in a class like this?

Students find themselves in Developmental Studies classes for a number of reasons. These reasons are perceived differently by the general public, Developmental Studies instructors, and the students in these classes. This presentation focused on the students' perceptions of why they are in Developmental Studies classes and how those perceptions can actually reduce their chances for being successful in class.

The presenters created a survey entitled "Top 10 Reasons for Being in Developmental Studies Math Classes." This survey was administered to over 25 sections of Developmental Studies Mathematics classes to see if there are certain reasons that are predominantly singled out by the students for their placement into developmental classes. The students were also asked how they felt about their level of placement and whether they believed the developmental classes would help them succeed in college level mathematics. According to the survey, the top three reasons were: 1) I do not test well in mathematics classes, 2) Math has always been difficult for me, and 3) I have forgotten much of my high school math.

Based on these results, the presenters offered suggestions for classroom interactions that might help students overcome some of their preconceived notions regarding their placement in Developmental Studies classes. One suggestion was to offer study tips such as informing students that they need to work problems while studying for tests rather than simply looking over their notes or homework. Another suggestion was to place emphasis on instructions so students know what is expected on tests. Other suggestions included encouraging students and celebrating their math victories with them. Session participants offered additional classroom tips throughout the presentation.

Presenters: Lawanna Fisher (lfisher@mtsu.edu)
Vivian Alley (valley@mtsu.edu)

Mathematics and the Web: Some Creative Solutions

This presentation examined the use of personal web sites and various software both for enhancing traditional developmental mathematics courses and for teaching online. The first presenter uses Microsoft FrontPage to author her web site while using MacKichan Scientific Notebook to produce the mathematical documents therein. The option to *SAVE AS A PICTURE* allows the copying of a document page as a gif file and the pasting of that page into an html document. Viewing the math requires no software other than a browser, and documents can be printed easily by the students. There is also a Viewer available for reading Scientific Notebook documents. Web documents that require extra software to read are avoided. The availability of Microsoft Office software in labs all over campus allows the use of Word and PowerPoint without access problems. Blackboard CourseInfo is used for communication and grades.

The second presenter teaches an online course using Macromedia DreamWeaver, Fireworks, and Swish, a high-end web authoring software suite. He uses DesignScience MathType as his scientific word processor, which saves each equation in a document as

a gif file. The resulting documents are readable with a browser. WebCT is used in addition to his personal web site. Respondus, which can be used for CourseInfo or WebCT, is used to generate quizzes. Real System Real Producer is used for video and audio clips. Both presenters use TI-83 Graph Link for screen shots and Peanut Software WinPlot for graphs. The graphs from each of these paste smoothly into Scientific Notebook and MathType documents.

Their web sites may be viewed at the addresses below. See the first site for a list of software with web addresses and uses.

Presenters: Annette Williams <www.mtsu.edu/~awilliam>
Scott McDaniel <www.mtsu.edu/~smcdanie>

Reforming Developmental Mathematics Cluster: In Pursuit of Mathematics Learning for Diverse Populations

To help foster dialog on developmental mathematics reform, the Department of Education Fund for the Improvement of Post-Secondary Education (FIPSE) has brought together a consortium of universities to coordinate workshops and journal issues on developmental mathematics. The project directors of four FIPSE funded programs facilitated a session outlining their joint mission as members of the Developmental Mathematics Reform Cluster and describing the individual projects in which they are involved. In addition to these projects (described below), the Cluster is coordinating the publication of three special issues of *Mathematics and Computer Education Journal*. These issues will examine the following themes and topics in developmental mathematics -- *Issue 1: Innovative Approaches*, *Issue 2: Incorporating Technology*, *Issue 3: Reforming Pedagogy and Instruction*. SPIN members interested in submitting papers may contact Dr. Selina Vasquez for additional information. Submission deadlines are June 15, 2002, January 15, 2003, and September 15, 2003 respectively.

"M. Y. Math Project - Making Your Mathematics: Knowing When and How To Use It"

This project has two aims. The first is to foster fundamental and problem-solving skills in developmental mathematics by helping students learn when and how to create algorithms as well as how to use them. The second is to provide on-the-job training for developmental mathematics instructors through an instructional framework that emphasizes non-traditional instructional techniques. The project is coordinated by Dr. Selina Vasquez - Southwest Texas State University <http://www.swt.edu/~math>.

"Exploring Quantitative Relationships : A New Approach To Mathematical Literacy"

This project evaluates the effectiveness of an instructional method that reduces students' quantiphobia using Excel. The project is coordinated by Dr. Jerry Waxman & Dr. Robert Goldberg - Queens College <http://www.qc.edu/~goldberg/eqr/>.

"An Integrative Curriculum Approach to Developmental Math and the Health Professions Using a Problem Based Model"

This project is based on an integrative curriculum approach to developmental mathematics and allied health using problem-based learning. In this model of learning, students are first shown a meaningful problem and asked to solve the problem collaboratively. The project is coordinated by Dr. Mark Shore & Dr. Brent Smith - Allegany College of Maryland <http://www.ac.cc.md.us/Department/math/fipse.html>.

"PROJECT SOLVE: Web-based Guided Practice to Improve Math Word Problem Solving"

This project focuses on a web-enhanced method for teaching students with special needs. The project is coordinated by Dr. Ronald Kelly - National Institute for the Deaf, Rochester Institute of Technology <http://problemsolve.rit.edu>.

Poster Presentations by SPIN members

Kay Haralson presented a "Calculator Comparison Guide" that gives simplified instructions for performing common algebraic operations on TI-82, 83, 85, and 86 graphing calculators. The guide is intended to facilitate in-class calculator usage among students possessing different models of calculators. By providing students with the guide, Kay places the responsibility on them for learning how to perform the calculator functions used in class. In addition to the comparative guide, Kay and her colleagues Nancy Matthews and Loretta Griffy have developed separate keystroke guides for each of the four calculators listed above. All of the guides are available on the web at <http://www.apsu.edu/matthewsn/calculator.htm>. Kay gives permission to duplicate.

Nancy F. Matthews gave a presentation on using "Calculator Assisted Factoring" to assist developmental students who struggle with trinomial factoring. The "factor by grouping" or "ac" method often helps these students to factor consistently. Using this method, students multiply $\boldsymbol{a \cdot c}$ to find two factors that add up to $\boldsymbol{b}$ in the quadratic expression $ax^2 + bx + c$. Use of the Y= and TABLE functions of a graphing calculator are particularly helpful in determining the factors of large values or in determining the proper signs. Once bx is separated into two terms, the resulting expression is factored by grouping. Specific examples, including calculator keystrokes, can be viewed on the Math SPIN web site.

Kay Thompson presented a strategy for helping students master factoring through the use of progressive mini-tests. Instructors administer a sequence of 17 daily assessments that build progressively upon one another. As they are graded, students take the assessments seriously and the daily reinforcement of basic factoring concepts assists them in mastering the more advanced concepts. Kay reported a dramatic increase in student performance following the implementation of this strategy. For more information contact Kay at <Kay.Thompson@kctcs.edu>.

Best Practices in Developmental Mathematics

As most of us are aware, teaching developmental mathematics differs substantially from simply teaching mathematics. Developmental instruction addresses not only the remediation of subject-specific deficiencies, but motivational and academic needs as well. As discussed in prior newsletters, the SPIN is using its special project funds to produce a booklet entitled "Best Practices in Developmental Mathematics." This publication will discuss successful teaching methodologies, academic support strategies, assessment techniques, placement practices, learning disabilities, and various other issues in developmental mathematics. We especially hope that the booklet will be of benefit to new professionals in the field.

To date, approximately 10-15 pages of materials have been received. If you are aware of particular practices that have been used effectively in developmental mathematics, please consider adding to the collection by writing a description of the practice and how it contributes to student success. Bibliographic entries related to the field of developmental mathematics would also be particularly useful. Materials should be sent to Tom Armington at the address on the bottom of page 4. The publication will be finalized in May.