
NADE**NEWSLETTER**

SPECIAL PROFESSIONAL INTEREST NETWORK**WINTER 1993**

RESTRUCTURING THE MATHEMATICAL BRIDGE: Mathematics Reform for Underprepared College Students

by William Thomas, Jr., Bridge Project Task Force chair

The task force of the "Restructuring the Mathematical Bridge: Mathematics Reform for Underprepared College Students" project, from here on referred to as the Bridge Project, has been very active this past year. The project has the official endorsement of NADE, and task force members are working closely with AMATYC in attempt to make the project a joint effort of the two professional organizations. Response to the project is on the rise. We now have about 100 people who have expressed interest in working on the project, and can honestly say that we have representation from Hawaii to Alaska and California to New York. Thanks for your interest and participation. Activity on the project is reported below.

Survey: The Task Force of the Bridge Project will be conducting a nationwide survey of developmental and nondevelopmental mathematics instructors. We will also be surveying developmental mathematics students. The purpose of the survey is to identify ways that developmental mathematics can be improved as seen by those served by developmental mathematics. We will be piloting the survey soon. Those of you who volunteered to pilot the survey have our appreciation and thanks. The surveys will be extremely helpful and important to the project. Different surveys will also be sent to the higher education boards of all states to ascertain the status of developmental mathematics programs currently in force.

Brainstorming: The task force has decided to take a total quality management approach to the reform effort. This, in essence, means that the ideas for reform are coming from those affected by developmental mathematics. They are developmental mathematics teachers, students, and nondevelopmental mathematics instructors who receive developmental students in their classes. The two methods the task force is using to get that input are by the survey and by brainstorming. The idea behind brainstorming is to create an atmosphere where ideas, no matter how far fetched, can be put forth and help to stimulate other ideas. Several members of the task force have led brainstorming sessions at the fall AMATYC conference in Indianapolis and other regional NADE and AMATYC conferences. The brainstorming sessions have been well attended with a mixture of developmental and nondevelopmental educators, and have generated a list of ideas to incorporate into the reform project.

Research: The project task force is beginning to organize the research aspect of the project. We have three major areas which we will be researching: curriculum, instruction, and assessment. We are considering decomposing the areas into more narrowly focused subjects that small groups could concentrate on.

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NADE
MATHEMATICS SPIN
NEWSLETTER



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**MATHEMATICS SPIN
CO-CHAIRS' REPORTS**

BETSY DARKEN: Improving NADE Conferences

At our Math SPIN meeting last year, our group generated a list of ways that the annual NADE conference could be improved in future years. I have discussed those suggestions with Joan Saroff, the conference and **program co-chair** for the **1993** NADE conference in Washington, D.C., and with Elizabeth Sham of the University of Maryland, the person in charge of scheduling presentations for the math strand. They were very **cooperative** and were able to address the following concerns.

(a) **Scheduling problems:** There are two math presentations scheduled at each of the 10 time slots during the conference, except for the first slot which has been designated at our request for our special Math SPIN presentation. Thus there are a total of 19 math presentations in the two math strands. In addition, there will be other math-related talks in the technology strand. Elizabeth Shearn has taken care to schedule math presentations in the two math strands to avoid obvious conflicts. SPIN members also expressed concern that there be more math presentations at NADE conferences. Of course this is a two-sided problem: the conference planners need more proposals!

(b) **Overcrowding:** Given the problem with crowded math presentations at last year's conference, Joan Saroff has agreed to schedule the math strand sessions in larger rooms.

(c) **Early publication of session titles:** A list of mathematics presentations is included in this newsletter. Please heed the warning that this is a tentative list -- every year a number of speakers cancel out before the conference.

(d) **Mathematics person on conference planning committee:** Elizabeth Shearnis playing this role for the 1993 NADE conference. We are requesting that this arrangement become a standard one for future conferences and that the math person work closely with the Math SPIN group.

(e) **Identifying mathematics people:** It was suggested that NADE include areas of interest on registration forms, so that conference planners could know more about conference participants. It is too late to do this for the 1993 conference. However, I requested that color coded stickers be provided at registration to identify different areas of interest (e.g., math). It is not yet clear if this can be accomplished. However, we can certainly do this ourselves at our opening session if necessary. continued on the next page

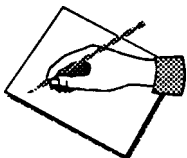
I believe that the Math SPIN's input will make the upcoming conference in Washington, D.C. even more useful to our members. Hope to see you in the capitol!!

KATHY HUPPLER: Newsletter Update

After numerous delays, the NADE Mathematics SPIN Newsletter is once again in business. Because the response to the inaugural spring 1992 edition of the newsletter was so tremendous, future editions will be sent to all NADE members who have indicated that their field of interest is mathematics --over **450** members at this time. The newsletter will be published late fall/early winter and spring of each year.

This newsletter can be an excellent forum for developmental mathematics education. Besides having reports on ongoing committee projects, I would like to include regular columns on innovative programs, technology in the classroom, textbook and software reviews, and upcoming events. Since this is a national newsletter, it also gives us the opportunity to share with each other what's happening with developmental mathematics in individual states. Higher education is increasingly being legislated and controlled by people outside the field of education. By staying informed about political mandates and trends, we can be in a better position to help shape the changes to come.

Please consider submitting now for the next newsletter. Many people are unable to attend national conferences, but can benefit from reading the presentations here. The spring newsletter is also an excellent place to advertise conferences and workshops slated for fall. This is our newsletter, and for it to be a success we all need to contribute. I look forward to hearing from you soon!



**SUBMIT
MATERIALS
NOW !!**

EFFECTIVENESS COMMITTEE REPORT

Betsy Darken, Chair

As reported in the last newsletter, the Effectiveness Committee has **developed** a model for statistically evaluating developmental mathematics programs. The purpose of our project is to define various measures for success and provide guidelines for obtaining relevant and well-defined statistics. The model may be requested by writing to me at the Mathematics Department, the University of Tennessee at Chattanooga, 615 McCallie Avenue, Chattanooga, TN 37403. The model has already been distributed to over 15 institutions.

In November, 1992 I attended the National Conference on Research in Developmental Education in Charlotte, NC, to ascertain what other activities were afoot vis-a-vis evaluating developmental mathematics programs. I attended the report of the Exxon study on Developmental Education given by the principal investigator, Dr. Hunter Boylan. At this stage, the investigators of that project have collected an enormous amount of detailed data on developmental education from a large sample of programs around the country. The analysis of the data is still being completed. In regard to developmental mathematics, it is my opinion that this study does not significantly overlap our own effectiveness study. While much of their data is similar to ours, my understanding is that the Exxon investigators are still developing methods of analysis. We might be interested in using their data at some future time, but right now I suggest that we continue to concentrate on collecting our own data and using our own model.

Our ultimate goal is to produce a monograph which includes the model, a number of case studies, and a discussion of implications. Activity on this project has been slow this past year, but I hope that we will be able to reach this goal in 1993. Hence I am once again requesting members of the committee and others who have been using the model to contact me regarding the results of their studies. Our committee will meet during the Math SPIN meeting at the NADE conference in Washington, D.C. to finalize the model and discuss plans for publishing our results.

KEYNOTE SESSIONS COMMITTEE REPORT

Christine Lehmann, Co-Chair

You know how frustrating it is to find out on the last day of the NADE conference that the person you've just met is also in **mathematics**. If **you'd** only known **sooner**, you **could have** spent **more** time **together!** **You're also surprised** to find out at the end of the conference that there are a whole bunch of mathematics people who didn't know about the Math SPIN group, and would have liked to attend those sessions. Well, we think we have a plan to address those concerns at NADE '93 in Washington in March: A Math SPIN sponsored "threshold session."

We've requested a session in the very first time slot and without a competing mathematics session. The idea - and this is how we pitched it to the program committee and how it will appear in the program - is to get all the mathematics people together AT THE BEGINNING OF THE CONFERENCE to meet each other

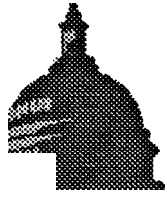
as well as to focus our attention on some of the major issues and trends to come up in later sessions.

In order to do so, we will have a group of Math SPIN members addressing those issues and trends. Our co-chairs, Betsy Darken and Kathy Huppler, will talk about the **developmental** mathematics network, curricular reform and the need for evaluation, and the achievements and ongoing projects of the SPIN group. Gwen Terwilliger will direct our attention to new directions and paradigms in instruction, and Bill Thomas will preview the Bridge Project. The session will be moderated by Christine Lehmann and Deann Christianson. We figure this will pretty well cover the waterfront, and invite all you math people to come on in --- the water's fine!! So watch your **conference** program for the session "Developmental Mathematics: Issues, Trends, and the Network" and come join us.



DO YOU NEED A ROOMMATE FOR THE NADE CONFERENCE IN WASHINGTON??

Many times people are unable to attend a conference because of the prohibitive costs of travel and lodging. If you are looking for someone to share lodging with, fill out and return the form on page 6. I will copy and disseminate the information to everyone who responds. This is your chance to reduce expenses and meet new NADE friends!!



NADE IN '93: A CAPITOL IDEA
17th Annual Conference, Washington, D.C.
March 17-21, 1993

All of you should have received the registration packet for the 1993 NADE Annual Conference. Information of Conference Registration may be obtained from Mary Ann Dvorsky, Hood College, P.O. Box 311-L, Frederick, MD 21701-8575. The conference will be an exciting time for us to gather and share topics in developmental mathematics education. At the request of Math SPIN members, we have obtained a tentative list of mathematics presentations. Please keep in mind that the schedule may be changed prior to the conference. The technology strand will also include topics related to mathematics.

Mathematics Strand Presentations for the 1993 NADE Annual Conference

- Developmental Mathematics: Issues, Trends, and the Network**
- Writing Assignments: The Right Tool for Improving Math Skills**
- Effecting the Affective: A Math Anxiety Seminar Guide**
- Graphing Calculators in Developmental Mathematics: Implementation and Assessment**
- Critical Thinking in Developmental Studies Mathematics**
- Cooperative Learning in Developmental Mathematics: Computers, Games and Tests**
- Graphing Calculators? Fine, But How Do We Test Students?**
- Restructuring the Mathematical Bridge: Mathematics Reform for Underprepared College Students**
- Using Technology to Enhance Learning in Developmental Arithmetic**
- Placement---A Monumental Task**
- Developmental Math Class: The One-Room Schoolhouse Model**
- How Do We Teach Study Skills for Mathematics?**
- Intervention Strategy Developed to Improve Student Academic Success**
- Developmental Math by Videotaped Instruction: A Viable Alternative**

ALGEBRA FOR COLLEGE BOUND SENIORS

by Carol Atnip, University of Louisville Preparatory Division Mathematics Coordinator

Since the spring of 1988, Seneca High School has been involved with the Academic Skills Assessment and Intervention Program which was a major outreach initiative of the Preparatory Division of the University of Louisville. The assessment portion of the program provided university placement levels for junior students in the areas of mathematics, reading/study skills, and writing. The results of the mathematics portion of the assessment indicated that some students who were completing Algebra II were not placing into college level mathematics courses. Those students were identified as college bound in the demographics portion of the assessment battery. As a direct result of this program, Seneca High School is offering a course that will give students the opportunity to review, refresh, and assimilate algebraic concepts in preparation for college level mathematics.

The design and implementation of this course is within the spirit of the Kentucky Education Reform Act by offering high school seniors the opportunity to acquire the basic algebraic skills needed to compete on an equal footing with other college bound students. The overall goal of this new course is to offer an alternative topic of study to senior students who have completed the required Algebra II course of the precollege curriculum but have not maintained the skill level expected of students taking precalculus or calculus. These students typically do not take math as seniors and are thus further behind their peers in mathematics as entering college freshmen. There were 28 students enrolled in the model course. Incorporated into the curriculum of the course were units on ACT preparation, math anxiety, study skills as specifically related to mathematics, and applications of mathematics in everyday life as well as a review of the needed skills and concepts of algebra, geometry, and trigonometry. As an integral part of the course, several field trips and speakers were scheduled to illustrate applications of the classroom concepts.

This course will serve as a model for similar courses throughout Jefferson County (KY) Public Schools. The course is based on the Elementary Algebra course at the University of Louisville. Elementary Algebra is a non-credit course designed to prepare students for Intermediate Algebra, which is a credit bearing course. In the fall semester of 1990, there were 1433 students enrolled in non-credit math at the University of Louisville. In the fall of 1991, 1335 students were enrolled. The need for this addition to the high school curriculum is clear.

ROOMMATE REQUEST FORM FOR THE WASHINGTON CONFERENCE

NAME _____

ADDRESS _____

PHONE work

home

female _ male

non-smoking _ smoking

Circle all nights that you will need lodging: Tues. Weds. Thurs. Fri. Sat. Sun.

Return to Kathy Huppler, St. Cloud State University, ECC 257, 720 4th Ave. S., St. Cloud, MN 56301-4498. I will forward all responses on February 20, so reply today !!



BRIDGE, continued from page 1

Conferences

The project is holding a conference in Toledo, Ohio on April 30, **1993**. The conference will feature innovative approaches to teaching high school, developmental, and nondevelopmental collegiate mathematics. The committee chairs from the project task force will lead a panel discussion on how developmental mathematics can effectively serve as the bridge between high schools and college mathematics. If you would like more information, contact Bill Thomas. There will also be a presentation of the Bridge Project at the NADE Conference in Washington, D.C.

Communication

Please feel free to communicate with any of the task force members. The names, addresses, telephone numbers, and e-mail addresses of the project task force are given below. Thank you for your continued interest and participation in an exciting, challenging, and demanding endeavor. It is amazing how many of you are willing to sacrifice time, money, and effort to help advance the state of the art of teaching mathematics.

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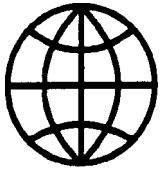
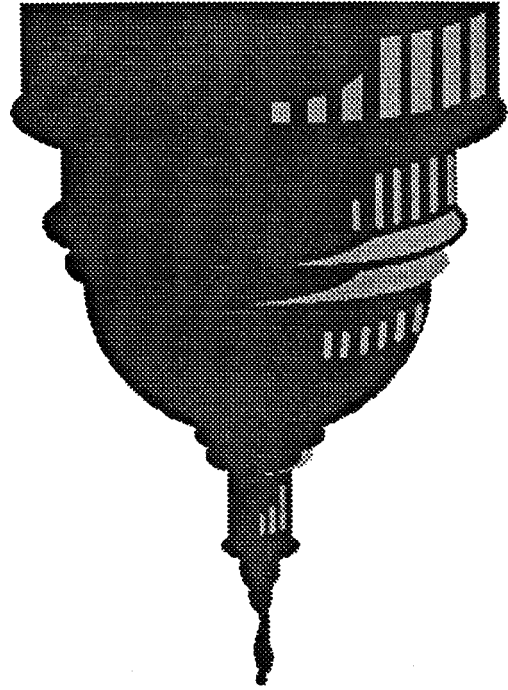
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