

## Guest Editorial...

# Project InterMath

James W. Wilson

My recent e-mail had a message that read, “The current InterMath team will be having cake to say goodbye to a few project personnel and to the end of InterMath as a formal project.” Hmm. Am I doing an editorial about something that is over? I do not think so . . .

In fact, a primary point I wish to make in this editorial is that we have a very RARE situation with Project InterMath. Most National Science Foundation (NSF) funded projects operate only as long as the funds last, and then the activities cease. InterMath is alive and well and continuing. More formally, University of Georgia’s Learning Performance and Support Laboratory (LPSL) continues to coordinate 45-hour workshops for in-service teachers in the areas of Number, Geometry, Algebra, and Statistics, using materials and syllabi from the site. Recently, the web site has been moved to <http://intermath.coe.uga.edu>, and the site will continue to be available for use. Instructors at various sites use material from this web site in their workshops and courses. Additionally, InterMath materials are used in other projects. For example, the Interactive Dictionary (<http://intermath.coe.uga.edu/dictionary/homepg.asp>) has been adopted by the Georgia Department of Education for its official use. InterMath has been adapted to allow it to continue to be a viable project while assuring the work will continue after NSF funding has gone.

The NSF funded Project InterMath is a collaboration among the Department of Mathematics Education (EMAT), the LPSL at the University of Georgia, and the Center for Education Integrating Science, Mathematics, and Computing (CEISMC) at the Georgia Institute of Technology. NSF funding began in April 1999 and was for a five-year project. So, Project InterMath was a formal project as designated by the NSF funding that ended in 2004, and we have had no-cost extensions.

In my view, the time of NSF support was only a midpoint of this journey. Elements and ideas for

Project InterMath grew out of my early involvement with LPSL, the Georgia Research Alliance (GRA), and the Georgia Center for Advanced Telecommunications Technology (GCATT). Support from GRA through GCATT helped with the early development of web-enhanced courses such as my courses, Technology in Secondary School Mathematics (EMAT 6680) and Problem Solving in Mathematics (EMAT 6680). These efforts combined the use of open-ended mathematics explorations with the use of technology tools.

By the mid-point of the 1990s there were various efforts in EMAT to address the mathematics preparation of middle school teachers. In the LPSL meetings, in which I continued as an adjunct staff member, we explored the ways we could incorporate technology into the professional development of **in-service** middle school teachers. We began to develop ideas for a project that would address: 1) improving the mathematics preparation of in-service middle school mathematics teachers, and 2) incorporating the use of technology tools into these teachers’ explorations with mathematics.

Several partnerships for these efforts were sought. Using grants from the Eisenhower Plan Prototype Development, we spent two years putting together a proposal for NSF, a team of players from EMAT, LPSL, and CEISMC, and prototype materials for what was to become the InterMath Web Site. The Georgia Department of Education pledged its support and participation through the INTECH Centers, with Valdosta State University and Kennesaw State University as test sites.

More importantly, we had a talented team of graduate students, teachers, and staff working with us. We found assistantship support from a variety of sources in EMAT, LPSL, and Eisenhower Grants. Our team included experienced mathematics teachers at the middle school and secondary school levels. As the project has continued, that talent pool has been replenished each year as graduate students completed their degrees or moved on to other opportunities and as the project moved from the development phase to the field phase.

Leaving out lots of details, essentially the initial years of NSF funding had an emphasis on building the

---

*James W. Wilson is Professor of Mathematics Education at the University of Georgia. His research interest includes mathematics problem solving processes, teacher education in mathematics, and the use of technology in mathematics teaching and learning.*

InterMath web site (<http://intermath.coe.uga.edu>). The content and explorations were built with a team in EMAT, the structure of the web site was built by CEISMC, and the coordination and management of the project were provided by LPSL. Then as we were ready to use the InterMath materials with middle school teacher workshops, most of the operation was housed in LPSL.

The Dictionary was not a part of the NSF proposal. Rather, it grew out of an early identification by the pre-proposal staff for having something readily available for definitions and elementary descriptions. It was funded initially by an Eisenhower Plan grant and then incorporated into the Web Site as it was developed at CEISMC. Our focus was on a set of definitions appropriate to the middle school and the writing was targeted for middle school students, middle school teachers, and the parents of middle school students. One pre-dictionary e-mail I received said "I am trying to help my child with his homework but I do not know what an acute angle may be." She needed a dictionary. To our knowledge, this is the only mathematics dictionary specifically targeted to the middle school level.

We opted to put the dictionary on the InterMath web site and eventually arrived at some compromise in precision to be offset by the use of examples and descriptions. Many of my e-mails from throughout the world mention the InterMath mathematics dictionary and how useful it is.

Did the project go as we planned? Of course not. For example, the state of Georgia demanded that all teachers complete INTECH training, and suddenly the INTECH centers were no longer available to us. When we were ready for field-testing of materials, Valdosta State University and Kennesaw State University had other agendas with higher priority. Our plans for workshops for principals never materialized—their attention span is too short for even a scaled down workshop on mathematics. It took us almost a year to get acceptance by the Professional Standards Commission for approval of staff development credits for the course syllabi we produced in Number, Geometry, Algebra, and Statistics. In our planning, we envisioned that college credit would be a primary direction for 45-hour courses; however, the option of staff development credit for which the school system hires an instructor proved to be a more viable option.

Much more remains to be done to provide professional development for middle school in-service

mathematics teachers. InterMath can continue to be a vehicle to incorporate efforts to impact on and learn from teachers' practices in mathematics teaching.

I am optimistic that the new standards for mathematics instruction will bring about improvement in teaching practices. It will, however, be a slow process. The new Georgia Performance Standards (GPS) will demand enhanced content knowledge, new pedagogical practices, and a deeper understanding of both. The InterMath materials have been indexed with the new GPS as well as with the NCTM standards.

I am pessimistic, however, about whether teachers, as a profession, can get beyond the search for the magic band-aid. One of the hard lessons of InterMath is that many teachers just could not devote the time needed for a 45-hour workshop. Yet, we feel strongly that extended professional development activities of that extent are going to be needed. Furthermore, as the mandate goes out to implement the new GPS standards, I worry that studying (the jargon is 'unpacking') the new standards in mathematics will become the goal of professional development rather than attending to the demands for deeper understanding of mathematics.

InterMath has been a good journey for me. I have developed a greater appreciation for the challenges faced by middle school mathematics teachers. I have a better respect for the expertise they bring to my classes and workshops. I have been rewarded by seeing many of our graduate students develop expertise in developing materials, managing web page, organizing workshops, writing syllabi, teaching middle school teachers, and teaching school system instructors to run InterMath workshops.

Moreover, I get a lot of e-mail from instructors and students who are making use of the InterMath materials. Some of them want help with problems. Some of them have suggestions. Sometimes it is just a "thanks for making this site available."

I have chosen to avoid naming all of the students, faculty, and staff members who have participated in the InterMath experience over the years. It is appropriate to close with a note of thanks to three colleagues. Mike Hannafin, director of LPSL, and Paul Ohme, director of CEISMC, were Co-Principal Investigators on the NSF Project. Thanks to them for putting up with me and being great team members. Chandra Orrill, however, has been the LPSL Staff member who has provided the leadership to make InterMath work and to engineer its continuation in new directions.