

Perspectives on Professional Development and Student Success:

Contributions from Teachers, Administrators, Cadre Members, Coaches, Liaisons, and IMI Staff

Preface

In 2002 the National Science Foundation awarded a Math Science Partnership grant to a partnership consisting of Indiana University and the nine urban school corporations of the Indiana Mathematics Initiative (IMI). The overarching goal of the project was to provide comprehensive professional development opportunities to teachers and administrators to facilitate the implementation of a standards-based reform mathematics curriculum.

There were four principal components of the project: elementary, secondary, administrative, and pre-service, but most teachers and administrators involved in project activities were concerned with elementary schools. In the first year of the project (the academic year 2002-03) intensive professional development was provided to teachers at grades 2 and 5, and approximately 15% of the corporation teachers at those levels participated. In the second year, similar experiences were provided for teachers in grades 3 and 4. To simplify the process for teachers, in both years the teachers worked with a common reform curriculum, and *Everyday Mathematics* was selected. The result of the first two years was the creation of a group of experienced, strong and well trained teachers – the Select Cadre – well positioned to serve in leadership roles for project activities in their districts. During 2003-04 each corporation was engaged in a textbook adoption process, and eight of the nine IMI districts selected *Everyday Mathematics* as the curriculum to be used district-wide. During 2004-05 the teachers who had participated in project professional development activities during 2002-03 and 2003-04 served as teacher leaders to conduct and facilitate professional development activities for all teachers in their districts. Also, teachers at grades K, pre-K, and 1 were provided intensive professional development through the partnership. Simultaneous with the professional development activities for elementary teachers, professional development was provided for administrators, including administrators at both the building and district levels.

At the end of 2003-04 a cadre of middle school liaisons was created to serve as a bridge between elementary and middle school mathematics teachers. Joint sessions were held between elementary teachers and liaisons and classroom visits provided opportunities for the liaisons to become familiar with the content and pedagogy of a reform elementary curriculum. The liaisons then worked with other teachers in the school to ensure that the prior mathematics experiences of incoming students were understood by all middle school teachers.

Secondary school (middle school and high school) teachers participated in summer workshops in mathematical modeling during 2003 and 2004, and a combination of summer and academic year workshops during the summer of 2005 and the 2005-06 academic year. One of the outcomes of those workshops is a collection “Lesson Plans for Mathematical Modeling in

Secondary Schools,” (insert web link). There was an increased emphasis on broader professional development activities for secondary teachers during the 2007-08 academic year and the summer of 2008.

During 2006-07 and 2007-08 responsibilities for identifying and conducting appropriate professional development activities were gradually shifted from the project to the districts. In general, each district identified its own activities and developed its own approaches to implementation, although there was sharing when appropriate. In 2006-07 there was substantial support from the project office and staff in identifying needs and ways to meet those needs, and many sessions were organized and/or conducted by project staff. However, the districts assumed primary responsibilities for planning for 2007-08. Project staff provided advice and consulting services during planning and program assistance during implementation, but most districts were capable and comfortable with the new responsibilities.

Activities involving pre-service teachers were carried out at Indiana University and included a revision of the pre-service mathematics courses for prospective elementary teachers and the introduction of “linked courses” for prospective secondary teachers. The linked courses are designed to connect the mathematics content courses with the content and pedagogy of the secondary classroom. These courses are taught by experienced secondary master teachers.

In January, 2008, it was suggested to teachers and administrators that they document some of their experiences. The topics and the nature of the documentation were their choices. In several instances groups of teachers met together to discuss their experiences, and in some cases the result was a formal collaboration. In other cases these meetings resulted in one author having a broader and deeper understanding of project activities. The resulting papers form this collection. The papers have been grouped by common themes, but the content of each paper originates with the author(s).

The first group of papers addresses the theme of professional development for administrators and teachers. It begins with a reflection written by an IMI staff member on the project’s professional development work with administrators in all the partner school districts. Also included in this section are three papers written by district coordinators about professional development for teachers in their districts, as well as three papers written by teacher leaders about specific professional development sessions conducted in their districts.

Teachers as leaders is the theme of the second group of papers. It begins with an another reflection from an IMI staff member on the role of teacher leaders in the IMI project and a paper on the success of using teacher leaders in one school district, co-written by the district coordinator and an assistant superintendent. This is followed by four papers that describe the roles of teacher leaders in three of the partnership districts. The section concludes with a principal’s reflection on her journey from teacher to teacher/leader to administrator.

The third group consists of ten papers focused on aspects of implementing standards-based curricula and reform-minded teaching practices within districts and in individual classrooms. The authors of these papers discuss such topics as the implementations of an elementary and a high school program, changes in classroom practices, assessment and vocabulary, the creation of curriculum maps linking state standards to a district’s curriculum, and addressing the needs of non-English-speaking and special education students.

The fourth collection is composed of five papers on instructional practices and strategies developed and used by the authors while participating in the IMI project. The two papers in the last section address family and community outreach activities provided in two of the partnership districts.