Status of the ARSI Master Teacher Project

The ARSI Master Teacher Project was established to enhance regional leadership capacity for science and mathematics program reform in rural Appalachia and to provide intensive support in school districts that have ARSI Teacher Partners and are approaching full ARSI implementation. During the portion of its first year covered in this report (through August 31, 2002) the Master Teacher Project has accomplished the following:

Selection of Master Teacher cadre. Five master teachers, known in the project as Regional Teacher Partners (RTPs) were selected by a rigorous application and review process. Each of the five has demonstrated excellence as a classroom teacher and effectiveness as an ARSI Teacher Partner. They are strong local leaders who also have a desire for impact in the broader ARSI region. As a group, they represent the range of grade level and disciplinary expertise desired by the project – both elementary and secondary, both mathematics and science. Their home districts have agreed to release them full-time for two years (August, 2002 through August, 2004) to serve in this project.

Baseline data was gathered from the RTPs using a variety of means, including a leadership skills inventory, the ARSI Teacher Partner Profile inventory, and narrative responses to items addressing their vision of mathematics and science teaching, their vision of leadership, their perceptions of the RTP role, and their perceptions of the assets and weaknesses they currently possess. The data have been used for two purposes: establishing an initial picture of the RTPs against which to compare subsequent data as they evolve in their roles; and identifying issues to address in planning for their ongoing professional growth at RTPs.

Based on the initial data, the MT Project evaluator reports the following characteristics of the RTP cadre:

• The RTPs are consistent in the vision they express for mathematics and science teaching. This shared vision is well-aligned with that promoted by ARSI.
• The RTPs recognize that they are considered leaders, and in fact demonstrate characteristics of effective leadership. However, they also feel that they have much to learn about leading and supporting change outside their home districts.
• The RTPs are strong examples of reflective practitioners, committed to examining their beliefs and practices, seeking out new information and perspectives, and continually improving their knowledge and skills.
• Each RTP has experience and expertise to contribute to the group as a whole. Together, they bring a variety of knowledge, interests, and resources that no individual has alone.

Preparation for the RTP role. Professional development for RTPs has two components: joint activities to build a common core of knowledge and skills and strengthen the team relationships; and individual activities to address particular areas of interest and need expressed by each RTP.

From March through August, 2002, the RTP group participated in 12 days of joint professional development activities, the majority in multiple-day sessions. Joint professional development addressed the following areas:
• Leadership and the skills of effective leaders. This work has centered around materials from John Maxwell, nationally-recognized for his work with leaders in the public and private sectors. Arising from this portion of the professional development (which has extended over several sessions), each RTP has identified specific aspects of leadership as objectives for personal study and growth.

• Characteristics of standards-based curricula. Through their work as ARSI Teacher Partners, the RTPs are well-grounded in the vision of standards-based teaching and learning. However, since they come from a variety of backgrounds – elementary and secondary, mathematics and science – the project has worked to ensure they also share common understanding of the essential features of standards-based curricula.

• Change facilitation. Using the resource books Building Leadership Capacity in Schools and Changing the Classroom from Within, the RTPs are developing their skills in working with school-based teams to improve programs and enhance instruction. They have also begun receiving specific training in group facilitation skills.

• Using data for program improvement. RTPs are building their skills in data collection and analysis, utilizing resources from Using Data, Getting Results and Richard Sagor’s publications on Action Research. Each RTP has developed an Action Research question to investigate in their school-based work in the coming academic year.

• Innovative technology. The RTPs received training on using the IMMEX system as a learning tool for engaging teachers and students with rich science and mathematics problem situations.

• Defining the work of the RTP. The RTP group and project staff have worked closely together to refine and clarify the role expectations for RTPs, the nature of the work they are to undertake in the schools, and the indicators that will be used to report their progress.

Individual professional growth is being undertaken in the following ways:

• Each RTP has identified and entered into a learning contract with a University mentor to further develop their knowledge in a particular area. For example, an RTP who has been a successful high school mathematics teacher is working with a university mathematics educator to learn about the content and pedagogy appropriate at the elementary level; another RTP who has an elementary science background is enhancing her physics content knowledge with help from two university physics professors who developed a CD-ROM based program. The RTP and mentor have developed and agreed upon particular learning goals and have devised a year-long plan of activities to achieve the goals.

• Each RTP has identified a specific area (e.g., brain-based learning, inquiry, technology) for concentrated study through individual reading and attending outside professional development. For example, two RTPs will be attending Exploratorium Institute for Inquiry sessions during 2003, as part of their focus on inquiry-based teaching.
The result of the joint and individual professional development will be RTPs well-grounded in their content knowledge and with the skills to work effectively with school staffs on program and classroom improvements.

RTP work in ARSI districts. The RTPs are scheduled to begin their work with schools in the 2002-03 school year. Their time will be divided between working with a “focus school” in their home district and with a “focus school” in each of two other districts in the ARSI region. To date, the following activities have taken place:

- Project staff have met with the leadership team (RTP, principal, key mathematics and science teachers) from each of the RTP home district focal schools. The teams have articulated their vision and goals for the mathematics and/or science programs; and developed a plan for how to utilize the RTP in realizing their goals.

- A “request for proposals” was developed and sent to other ARSI districts soliciting proposals to have an RTP work with one of their schools.

Selection of the “outside” districts for RTPs has not yet been made. In the focal schools in their home districts, RTP local work is expected to have direct impact 5 schools, 36 elementary teachers, 17 middle and high school teachers, and 2900 students.