

**PARTNERSHIP FOR REFORM IN SCIENCE AND MATHEMATICS (PRISM)
EHR-0314953 UNIVERSITY SYSTEM OF GEORGIA**

**Response to Site Visit Team Report
June 15-17, 2005**

INTRODUCTION

The PRISM Leadership Team wishes to thank the NSF Site Visit Team for a very constructive Site Visit Report. We have summarized the recommendations from the Site Visit Team into nine priorities:

1. Attend systematically to ensuring that challenging courses/curricula are in place at the classroom level to help students meet the new Georgia Performance Standards (GPS), and that these courses/curricula reflect meaningful problem-based activities for students.
2. Strengthen communication between the Department of Education and the PRISM regions in the implementation of the new GPS.
3. Enhance efforts to strengthen K-8 teachers' content knowledge in science and mathematics (SM) in ways that relate directly to their teaching the new GPS; when planning teacher professional learning opportunities, base decisions both on teachers perceived needs and on evidence from evaluation (particularly evidence about the level of teachers' content knowledge).
4. Engage all K-12 teachers of SM in professional learning regarding teaching the new GPS, not just those teaching at levels that correspond with the roll-out of the new standards.
5. Ensure consistent K-16 participation in Learning Communities in all four regions and actualize all defining elements of the PRISM Learning Community Definition Document.
6. Keep focused on work to change the higher education reward system and to improve teacher working conditions, both of which are central to sustainability.
7. Integrate the Public Awareness Campaign with all other PRISM strategies at the state and regional levels.
8. Strengthen the summative evaluation design.
9. Strengthen efforts to produce generalizable knowledge and make more explicit how existing research literature is used in the implementation of PRISM Strategies. Appoint one or more individuals to oversee and coordinate these efforts.

The PRISM design includes an annual retreat in September—with broad-based participation from regional and state partners—to reflect on accomplishments and challenges faced during the previous year and to revise the next year's implementation plan accordingly. The NSF Site Visit Team Report will be used in the September 2005 retreat as the basis for revising the Year 3 Implementation Plan and to highlight key areas of focus going forward. The PRISM PI sees the nine points above as the core of the Partnership's Year 3 Agenda.

Through the process of writing the Year 2 Annual Report, the PRISM Leadership Team had already begun developing priority areas of focus for Year 3. The priorities we have identified correspond with the recommendations from the Site Visit Team. Four examples will illustrate:

- **Scholarship Agenda:** The PRISM Leadership Team agrees with the following statement in the Site Visit Team Report:

“The evidence-based design and outcomes feature might be thought of as pertaining to two related, but distinct areas: (1) evaluation—both formative/process and summative/outcomes—and (2) research that contributes to generalizable theoretical or practical knowledge.”

A Research Committee has been appointed and a preliminary series of research questions has been established. Clarification as to the distinction between the work of the Evaluation Team and that of the Research Committee was planned as a key agenda item for the September 2005 retreat. This strong recommendation from the Site Visit Team will be very helpful in optimizing the work of both the Evaluation Team and the Research Committee.

- **Evaluation:** The Evaluation Team leader is reorganizing the Evaluation Team and requesting additional resources. A search for an assistant (research associate) is underway who will be responsible for the benchmark and MSP-MIS data gathering. Funding for an additional external evaluator has been requested with responsibility for the evaluation of state strategies 5 and 8, which have been revised and/or expanded. The state evaluator who conducted the Southeast Case study has been replaced with a qualitative evaluator and he will take the lead in designing evaluations of the teacher incentives models. These changes add three new evaluators to the team.
- **K-8 Teachers' Content Knowledge:** The PRISM Leadership Team had already recognized the need to ensure increased SM content knowledge for K-8 teachers. Neva Rose, Atlanta Public Schools, and Ron Henry, Georgia State University, had been asked to provide leadership in this area. Their work will focus on enhancing efforts to offer rigorous SM courses to K-8 teachers in ways that are accessible to them (given teachers time constraints) and in ways that have direct application to teachers' teaching the new GPS. Sheila Jones, Project Director, also had planned to incorporate “rewards” for teachers' completion of content courses into the incentive models being piloted in the PRISM Strategy to improve Teacher Working Conditions.
- **Integration of Public Awareness Campaign with other PRISM Strategies:** The need to more tightly integrate the Public Awareness Campaign with all other components of PRISM had already been recognized. As an initial step, during the September 2005 retreat we had planned for Rosalind Barnes, Director of the Public Awareness Campaign, to discuss the results of the Market Research with each Regional Coordinating Committee and the Leadership Team. Resulting from these discussions, rather significant changes in the Year 3 draft Implementation Plan are anticipated.

Specific responses to issues raised in each section of the NSF Site Visit Team Report Follow.

A. INTELLECTUAL MERIT AND BROADER IMPACTS

Stronger Presence of Empirical and Theoretical Research Ideas in the Evaluation: We agree that there is room for stronger presence of empirical and theoretical research ideas within PRISM. As noted in the Introduction, the recommendations of the Site Visit Team will help us to delineate our focus between the research and evaluation components of PRISM and to strengthen both. The ultimate goal of the PRISM evaluation will be to determine the effectiveness of PRISM in meeting its goals and objectives. While generalizable research will be one outcome of evaluation, it is secondary. Generalizable research will be coordinated by the Research Committee, formed in December 2004. The Evaluation Team will work closely with the Research Committee.

The purposes of the PRISM evaluation are based on the literature (see, for example, The 2002 User Friendly Handbook for Project Evaluation, Frechtling, 2002): to provide information to help improve the project and to provide information to a variety of stakeholders. Formative and summative evaluations are used to evaluate the implementation of the project and the progress toward meeting the project goals. Further, the purpose of the PRISM evaluation is to assess the worth, or merit, of the project for the all stakeholders, including NSF.

The Evaluation Team uses empirical and theoretical research ideas in the selection and development of some of the instruments, such as in the development of the *Inventory of Observation Teaching and Learning (ITAL)*. The ITAL was developed as a teacher self-assessment measure to parallel the content and structure of the *Reformed Teacher Observation Protocol (RTOP)*, which was developed by the Arizona Collaborative for Excellence in the Preparation of Teachers with grant support from NSF. The RTOP was developed by science and mathematics educators and professors at Arizona State University and is grounded in theories of constructivism reflected in the work of scholars such as Lev Vygotsky and Ernst Von Glasersfeld (social and radical constructivism). The RTOP has strong empirical and theoretical bases as well as strong psychometric support. Other instruments, such as interview protocols and participant surveys, are tailored to evaluate the effective implementation of the relevant components of PRISM and, consequently, are not theory-based.

Additional Resources for Evaluation: The PRISM Leadership Team appreciates the statements made by the Site Visit Team as to the potential for broader impact of PRISM. The distinction cited above between the work of the Research Committee and the Evaluation Team, with additional resources dedicated to both, will position PRISM to capitalize on the potential described by the Site Visit Team.

B. MSP PROGRAM KEY FEATURES

1. PARTNERSHIP DRIVEN

OPPORTUNITIES FOR GROWTH

Parental Involvement: PRISM recognizes the value added by greater parental involvement. During the September 2005 PRISM Retreat, the four Regional Coordinating Committees (RCCs) will identify and develop strategies and practices to expand parental involvement using Epstein's (1996) framework. During the September 2005 retreat, the PRISM Leadership Team will also discuss strategies for partnering with the newly NSF-funded Peach State Louis Stokes Alliances for Minority Participation (LSAMP) project which involves a partnership between six institutions: The University of Georgia (lead institution), Bainbridge College, Fort Valley State University, Georgia Perimeter College, Savannah State University, and Southern Polytechnic University. One of the aims of this new LSAMP initiative is educating parents and guardians about careers in SM fields via information nights and parent/student career workshops. We envision a synergistic interaction between this initiative and the PRISM Public Awareness Campaign.

Partnerships with Business: At the regional level, PRISM is already partnering with local businesses. In the Northeast Region, a local business partner provided funds to Clarke County Schools for the purchase of science laboratory equipment and science materials. In the Southeast Region, a summer science institute was co-funded by PRISM and by International Paper; a summer program in Geology partners with Kerr-McGee Pigments; presentations about PRISM have been made to local businesses; and PRISM is re-energizing "Teachers in Industry" a program that connects teachers with many local industries. The East Central Region plans to seek a partnership with the Education Committee of the Statesboro-Bulloch County Chamber of Commerce in fall 2005. The Atlanta Metro region has already connected to and involved local business support in various ways that include:

- *GIFT (Georgia Industrial Fellowships for Teachers)* is a year-round immersion program housed at the Georgia Institute of Technology for K-12 teachers of SM. It begins with a six or eight-week summer or internship experience working with a mentor in business, research, technology, or an informal science organization (museums, zoos, etc.). Teachers experience scientific inquiry, applications, and uses of new technologies in the workplace. Through GIFT, teachers are linked through interdisciplinary professional networks and they return to their classrooms renewed and empowered to deliver a quality standards-based curriculum. During 2004-2005, mentors from Emory, Georgia Tech, Georgia Pacific and Arch Chemicals worked Atlanta Public School teachers.
- *The Atlanta Partners for Education* is a joint non-profit program of the Metro Atlanta Chamber of Commerce and Atlanta Public Schools. Members tutor, mentor, provide career assistance and give other resources. Businesses and organizations partner with elementary, middle or high schools. The Superintendent serves as member of this group.

The Atlanta Metro Regional Coordinating Committee will pursue making more explicit the connections between PRISM and the Atlanta Partners for Education.

At the state level, to date PRISM's partnerships with business have been through its companion initiatives that were described in the materials prepared for the Site Visit Team. Business partnerships include: Georgia BellSouth, United Postal Service, Washington Mutual, IBM, and Georgia Power. At the September 2005 retreat, the PRISM Leadership Team plans to focus explicitly on the "business related" recommendations of the Business-Higher Education Forum in "*A Commitment to America's Future: Responding to the Crisis in Mathematics and Science Education*," that was referenced in the PRISM over-view presentation at the beginning of the Site Visit.

Partnerships with other IHE Departments in Teacher Recruitment: The NSF Site Visit Team has provided a good suggestion for expanding PRISM recruitment efforts at IHEs. Collaborating with existing programs and projects that have common goals will help scale up teacher recruitment efforts without large amounts of increased funding or the staff time to create new programs. In addition, if projects or programs are carefully chosen for their success rate and level of institutionalization, collaboration will lend stability to the recruitment efforts.

As an example, the program, "Fostering Our Community's Understanding of Science" (FOCUS) featured by the University of Georgia at the Site Visit was originally designed to provide undergraduate students the opportunity to help elementary school teachers incorporate inquiry-based science demonstrations and experiments into the curriculum. It is a service learning credit-bearing course. Goals of the program include improved science knowledge of students, changing students' attitudes about science, and providing science content knowledge support for elementary school teachers thereby increasing confidence. Unexpected benefits of FOCUS came to light after one year of implementation. Project staff found that the FOCUS program helps recruit prospective teacher education students by increasing opportunities during college for students to learn through hands-on experiences in public school classrooms. College students were also seen as role models: as "real" scientists to emulate and as mentors who inspired students to achieve. The Northeast Georgia PRISM worked with FOCUS to increase the number of students assigned to PRISM partner schools and invited the College of Education recruitment director to each section of the undergraduate course to promote teaching as a career.

After reading the Site Visit Team's recommendation, all of the regions have expressed an interest in exploring the possibility of replicating the success of FOCUS through service learning or volunteer departments at their institutions. Those IHEs that do not have recruitment funding through PRISM have a satellite grant to increase recruitment efforts. Examples of suggestions from regions include expanding internship programs for SM majors to work with K-12 students, coordinating student volunteers as outreach to regional schools in both volunteer opportunities and credit bearing courses, and working with a mentor program to tutor and mentor K-12 students in mathematics and science.

Inter-regional Sharing: The PRISM Leadership Team is committed to inter-regional sharing, which to date has been accomplished through the participation of Regional Co-PIs and K-12 Coordinators in activities that are sponsored by other regions, showcasing the work of each

region at PRISM Leadership Team meetings, and inter-regional sessions at state meetings of the Institute on the Teaching and Learning of Science and Mathematics. At the September 2005 retreat, the PRISM Leadership Team will consider other ways to increase cross-sharing among the PRISM regions.

Equal Partners of K-12 and IHE Partners in Learning Communities: The Partnership has intended for K-16 Learning Communities to be on “equal footing” in all ways: sharing leadership, studying data, learning from each other, and planning and implementing professional learning. We do recognize that moving from definition to actualization takes time. Nonetheless, we believe that the time and energy we have spent on studying, planning, defining, implementing and supporting our Learning Communities has effectively set them on a path toward building sustainable partnerships between and among K-16 faculty. With our continued attention to the Learning Communities in our annual planning, we anticipate that our Learning Communities will grow to surpass even the goals we originally set for them. The paragraphs below support this position.

- A good part of year one was dedicated to thinking deeply about the key components of our K-16 Learning Communities and how to best foster these components. For example, in April of 2004, the Leadership Team gathered in a two-day retreat discussing the research and deciding on a shared definition of Learning Communities to guide our work (see Learning Community Definition Document in our Year 2 Annual Report).
- All four PRISM regions have supported this shared definition and each is working toward implementation of all defining elements. For example:
 - In the Southeast region, K-16 Learning Communities have established goals which reflect the PRISM defining elements. They then support and document progress toward these goals through the submission of monthly reports and annual work plans documenting progress toward these goals.
 - In the Northeast region, IHE and K-12 co-facilitators of the Learning Communities submit proposals for mini-grants on aspects of their work
- Our Year 3 Implementation Plan features our commitment to the continued development of all PRISM Learning Communities toward optimizing all defining elements contained in our Definition document.
- Ways to optimize PRISM Learning Communities will be a major agenda item at our September 2005 Retreat.

CHALLENGES/PROBLEMS THAT MAY IMPEDE THIS WORK OR ITS SUSTAINABILITY

Opportunities to Deepen Teachers’ Content Knowledge: We agree that we should provide professional development for teachers based not only on their perceived needs but also on evidence of weaknesses of their students in understanding various concepts. The Site Visit Team observation and comment that "As trust develops between the K-12 and higher education educators in a Learning Community, the higher education educators should be sensitive to this issue and look for opportunities to deepen teachers' content knowledge, thereby going beyond the activity/demonstration model" provides a potential line of attack. We will work with higher education faculty involved in Learning Communities to sensitize them to this issue. One of the ideas underpinning a Learning Community is to share across K-16 ways that are successful in

teaching a particular concept. Then, the various participants could try the same technique in their classrooms. If the technique is successful in various classrooms, then local teacher craft knowledge is transformed into more generalizable knowledge. In the course of the discussions, it might become apparent that some teachers have difficulty teaching a concept because they do not understand it in sufficient depth themselves.

Making Content Courses Accessible and Relevant to Teachers: We see the “accessibility” and “relevance” as key to increasing K-8 teachers SM content courses. Under the leadership of Neva Rose (Atlanta Public Schools) and Ron Henry (Georgia State University) alternative course scheduling and delivery models will be identified and discussed within the PRISM Leadership Team. Varied teaching strategies will be featured through the Institute on the Teaching and Learning of Science and Mathematics. Using these strategies, our initial thinking is that SM courses will be offered in all four regions in ways that more accessible and attractive to K-8 teachers, that will maintain stringent standards, and that match the needs of local schools and systems—perhaps using modules that are project-based and that incorporate approaches suggested in the GPS so that teachers end up with units they could use in their classrooms while simultaneously deepening their content and pedagogical knowledge. These ideas will be explored more fully during the September 2005 retreat.

2. TEACHER QUALITY, QUANTITY, AND DIVERSITY

EXTENT THIS KEY FEATURE IS BEING REALIZED

Content Courses for Teachers: As noted previously, increasing K-8 teachers SM content knowledge is one of our top areas of focus for Year 3. The integration of several PRISM strategies that are already underway will contribute to our success:

- Through state and regional meetings of the Institute on the Teaching and Learning of Science and Mathematics, SM and Education faculty to learn about, discuss and implement a variety of teaching and learning strategies in the classroom. Incorporation of these teaching and learning strategies in content courses for teachers will be critical to our success.
- The Leadership Team can draw upon the Mini-grant initiatives to aggregate lessons learned about integrating strong content and pedagogy.
- The strategies used in four regions, and in particular in the Metro Atlanta Region, to get higher enrollment of K-8 teachers in the SM endorsement courses.

The NSF Site Visit Team recommends use of an assessment tool designed to determine in what SM content knowledge teachers need. A lesson from the Atlanta Metro RCC is that teachers are more likely to use a self-assessment instrument if they are trained on how to self-assess. Two members of the Atlanta Metro RCC have been trained on how to use the Measures of Teachers’ Mathematics Knowledge for Teaching (Ball, 2000). The assessment uses elements from existing theories about teacher knowledge (e.g., Ball & Bass, 2001; Grossman, 1990; Shulman et al, 1987) to write a set of survey-based teaching problems thought to represent various components of the knowledge of mathematics needed for teaching. Different from conventional measures of

teachers' content knowledge in mathematics, these items investigate teachers' mathematical knowledge as it is used within particular tasks of teaching. For instance, these measures not only assess whether teachers know that $1\frac{3}{4} \div \frac{1}{2} = 3\frac{1}{2}$, but also whether teachers can explain what the expression means, can construct a concrete representation or word problem which corresponds to it, and can manipulate the elements of that model to show a solution. The Metro Atlanta RCC currently has measures that reflect teachers' facility with elementary numbers and operations and patterns, functions, and algebra content. Each measure consists of 10-12 multiple-choice prompts, achieves reliability of .70 or above, and can be used as a pre/post-test to assess teachers' knowledge growth in this domain.

The Metro Atlanta RCC is currently developing and piloting additional measures in the content areas of geometry and middle-grades algebra, and is continuing work on measures designed to assess teachers' knowledge of student thinking. Its work is in partnership with the Study of Instructional Improvement and California's Mathematics Professional Development Institutes. The Metro Atlanta RCC plans for elementary teachers take the survey and then for SM and Education IHE partners to work with the Atlanta Public Schools to design courses/professional development based on the results that incorporates performance tasks and problem-based learning scenarios. Through inter-regional strategies, these successful strategies in the Metro Atlanta RCC will be shared with the other regions. As mentioned previously, Neva Rose and Ron Henry, from the Metro Atlanta Region, will provide leadership in this area for all of PRISM.

Increasing K-16 Faculty Participation in Learning Communities in all Regions: The goal is for all PRISM Learning Communities to meet all of the elements of the PRISM Learning Community Definition Document. The Partnership will also continue to honor regional differences in how each region meets these defining elements. For example:

- In the Northeast Region, SM and Education faculty members from the University of Georgia have developed a partnership culture through a variety of projects prior to PRISM. PRISM acts as the channel to connect higher education faculty with P-12 faculty to form Learning Communities.
- In the Southeast and East Central Regions, the faculty workload at Armstrong Atlantic State University and Georgia Southern University (which are higher than those at the University of Georgia or at Georgia State) must be factored in. In these regions, PRISM not only provides the connection between the IHE and the K-12 schools but also the training for working in Learning Communities, the compensation for that work, whether it is time or money, and the administrative support at all levels to recognize the value of this type of work by SM faculty.
- In the Metro Atlanta Region, the RCC plans to use the work of Dr. Nancy Love's Using Data Project, funded by National Science Foundation, as a way to structure the work of the school-based Learning Communities.

The Leadership Team acknowledges that there is much to learn across regions about successful K-16 Learning Communities. The Partnership will draw heavily on the successes of all regions to date, particularly the Southeast Region, in building consistent participation in all regions. The PRISM Learning Community Definition Document will serve as the framework.

EVIDENCE THIS KEY FEATURE IS BEING REALIZED
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Evidence Being Realized through the Institute on the Teaching and Learning of SM: While the statewide Institute workshops are held two times per year, the regional institutes have been designed and now implemented to meet regularly in the interval between statewide workshops. Both statewide and regional institutes are Learning Communities comprised of SM and Education IHE faculty and SM high school faculty. Thus, conversations between discipline-based and education IHE faculty will occur regularly to ensure that the pedagogy used in teaching the introductory SM courses includes problem solving and inquiry.

The Institute's main agenda focuses on problem solving and inquiry for SM and education faculty. Discussions already occur in the Institute when guest speakers address both content and pedagogy. Regional teams have both discipline-based faculty and education faculty who attend, and the agenda provides opportunities for regions to plan, develop strategies, etc.

In addition, most of the IHE campuses have existing structures where these conversations can take place. For example:

- In the East Central Region, Georgia Southern University has a Mathematics Education Advisory Council that provides a means by which mathematics education and mathematical sciences faculty can share ideas.
- In the Northeast Region, there are two Learning Communities that have as members SM and education faculty as well as high school teachers. These two Learning Communities explore how to incorporate inquiry into lecture and labs and how to identify and then dispel misconceptions using inquiry based teaching and learning.

Our regional institute meetings provide opportunities for SM and education faculty to discuss progress in these Learning Communities as well as in their mini-grant projects. These meetings provide opportunities to discover common interests and potential partnerships. Time at state Institute conferences is also spent in regional groups discussing what IHE faculty have learned and how to apply the lessons to the Learning Community and mini-grant work at the regional level. All of these opportunities foster collaboration between education and SM faculty.

Student Use of Problem Solving and Inquiry Strategies in the Advanced Academy for Future Teachers (AAFT): Research indicates that novice teachers teach as they were taught. Even when faced with new strategies and methods, novice teachers have difficulty incorporating those new strategies into teaching. In the AAFT, the SM faculty do teach with inquiry/problem solving methods and make sure they model these techniques of questioning and explanation when working with the AAFT students. When the AAFT students teach their own lessons, it is evident that most rely on the methods they have encountered through 11 years of schooling. The three days of inquiry/problem solving modeling by the AAFT Instructors are not enough to engage all young adults in AAFT in the reflective process of understanding how other people learn.

One improvement in AAFT should be a closer and more prolonged monitoring of the lessons AAFT students design, allowing for more interaction between the instructors and students so that reflective and meaningful conversations about the teaching strategies used may ensue. In this way, only inquiry-based lessons will be taught by both instructors and students. As in other areas of education, such as the Nature of Science, research indicates (Norm Lederman's work) that we can not expect students to understand some pedagogical intricacies implicitly. We must explicitly teach students the differences between strongly-held beliefs and newer habits of mind.

Replication of AAFT in other PRISM Regions: The Atlanta Metro RCC will share materials, resources and conduct information sessions for other regions that are interested in the AAFT model. There are also several programs across regions to address recruitment of SM teachers. Some teacher recruitment successes from other regions will also be shared. For example:

- The East Central Region organized Eagle Quest, a five-day institute where high school juniors and seniors were invited to live in residence on the Georgia Southern campus, and learn SM from College of Science and Technology faculty. Students were then expected to take what they learned and teach it to grade school children that had been recruited by the Boys and Girls Club. The project was highly successful, and resulted in a front-page article in the June 30 issue of the Statesboro Herald.
- The Northeast Georgia Region targeted undergraduate students in arts and sciences who are "undecided" in their major for the recruitment strategy. Their FOCUS program fits this targeted population and the program takes less funding to expand and sustain. They will, however, work with their partner school districts to encourage teacher apprenticeship programs or introduction to education courses in the high schools.
- The Southeast Region and East Central Regions are active participants in The University System Teacher Recruitment Initiative, which is a companion to PRISM.

Scholarly Research on the Advance Academy for Future Teachers (AAFT): The state Evaluation Team is collecting data on all students who participate in the AAFT. Graduating seniors will be tracked into University System of Georgia institutions using the P-16 Data Mart. They will be followed annually until they graduate. Then, using the state's Certified Personnel database, we will be able to determine if they become public school teachers in Georgia, their areas of certification, and what subjects and grade levels they teach. The latter will be after the PRISM grant ends, but the data tracking systems will be in place to follow them and data will be available for research and evaluation purposes.

The Research Committee will organize scholarly research on this promising initiative. This will include development of a research design that will document successful program components. We will collect longitudinal data on each cohort of teachers

OPPORTUNITIES FOR GROWTH IN THIS WORK

Participation of all Teachers in Training on the Georgia Performance Standards (GPS): The initial priority of the Georgia Department of Education (DOE) has been on helping prepare teachers who will be required to teach the GPS in the first year of implementation. The DOE recognizes that all K-12 teachers need to be aware of the full scope of the GPS and have access

to GPS resources and materials for all grade levels. This is particularly true in mathematics, which will be an integrated and sequential curriculum. Teachers will need to understand what their students will be expected to know and be able to do to be ready for the next year's curriculum and to be successful in the state's End of Course Tests and High School Graduation Tests. It will also be necessary for teachers to know what the curriculum is for previous grades.

In order to benefit all schools and all K-12 teachers, the DOE is developing tasks at each grade level that show rigor, depth of knowledge, and expected performance with examples. The DOE is collecting student work with teacher commentary that will show teachers at all grade levels examples of expected outcomes. The tasks, student work, and teacher commentary for all grades will be on the DOE website and available to all K-12 teachers, university faculty, students, parents, media, and the public. These resources will be highlighted for dissemination to the PRISM Regions through the PRISM Leadership Team.

The DOE works closely with both the Georgia Council of Teachers of Mathematics (GCTM) and Georgia Science Teachers Association (GSTA). Both groups are working with the DOE and K-12 teachers throughout the state to offer supporting content-specific workshops and professional development on the GPS. GCTM is sponsoring a Summer Academy for mathematics teachers and will continue to support and feature GPS content-specific training at their Annual Conference. GCTM is also helping to collect mathematics tasks, student work, and teacher commentary for the GPS that will assist all K-12 teachers. GSTA will continue to feature the GPS at their State Conference and provide workshops and content-specific professional development to science teachers on the GPS. Both Stephen Pruitt (DOE Science and Mathematics Program Manager) and Claire Pierce (DOE Mathematics Specialist) work closely with GCTM and GSTA, and serve on the PRISM Leadership Team. In PRISM Year 3, the DOE will work with GCTM and GSTA to highlight the need for all teachers to be knowledgeable of the GPS content continuum at all grades K-12, so that teachers are aware of student and teacher expectations at all grade levels.

Beginning this summer, we will begin a PRISM Regional Education Service Agency (RESA) Collaborative. PRISM will partner with the DOE, University System of Georgia, RESA, and the University of Georgia's Learning and Performance Support Laboratory to offer GPS professional learning to regional SM specialists. These SM specialists work directly in schools to help systems and teachers implement the GPS. In the collaborative, we will highlight the need for RESA SM specialists to encourage all K-12 teachers to become aware of the GPS at all grade levels and to participate in GPS professional development in their schools and systems even if their grade is not yet being implemented.

In Year 3, PRISM will collaborate with the DOE to highlight the need for the state's academic coaches and the 16 new Science Implementation Specialists to encourage vertical alignment and learning with K-12 teachers.

The PRISM regions will continue to focus their professional learning on both content and pedagogy. The PRISM regions are engaging university faculty in designing and offering professional development for K-12 teachers, as well as including these topics in their own coursework. PRISM regions are working with their districts to encourage all teachers to

participate in professional development opportunities related to the GPS. The following examples will illustrate:

- PRISM's Southeast Region has a working GPS subcommittee that studies, plans, and implements GPS professional learning in the region. The events not only support the GPS rollout, but are also focused on collaborations with K-12 and higher education to create professional learning which deepens teacher content knowledge at all levels. This 15 member subcommittee includes SM faculty, College of Education faculty, K-12 administration, and K-12 teachers from all levels. The Southeast Region's SM GPS workshop held in May 2005 included every 5th and 6th grade PRISM teacher and 7 SM faculty from Armstrong Atlantic State University. Vertical teaming will continue to be a strong focus for the Southeast Region's Learning Communities.
- PRISM's East Central Region GEMS workshops in earth science and mathematics have had enrollment from multiple grade levels. Teachers from all grade levels were encouraged to attend and work outside of their particular grade level. The East Central Region will continue to encourage teachers at all grade levels to participate in professional learning together, and will work in Year 3 to encourage PRISM Lead Teachers and administrators to develop vertical Learning Communities.
- PRISM's Northeast Region has offered a variety of professional learning formats (one-day workshops, courses, and Learning Communities), and will work in Year 3 to weave information about the GPS continuum into professional learning. The Northeast Region has learned a great deal about the change in teaching philosophy that must be addressed during professional learning. They will begin to focus more on planning a sequence of quality professional learning for teachers as they implement the GPS.
- PRISM's Atlanta Metro Region convened GPS writing teams for K-12 teachers for two weeks this summer, and used the backward design model to develop concept-based units. The writing teams produced two modules that will be field tested by all teachers during the academic year and university faculty will be involved in the validation process. Two teachers reviewed content with higher education faculty and the backward design process with content coordinators from the Atlanta Public Schools. Metro Atlanta Region also provided two week professional development session on unpacking the GPS and unit development. A separate one-week summer institute focused on content knowledge and using instructional data related to the new GPS. Both of these experiences involved over 450 teachers. The Atlanta Metro Region partners with Project Grad Atlanta to provide direction, models, and training for middle and high school Vertical Team facilitators in science, mathematics and English Language Arts. The team members organize a series of activities, meetings, and workshops and collaborate on the best ways to deliver content. Atlanta Metro will work to expand vertical teams to elementary schools.

Teachers Content Knowledge Critical to the Successful Implementation of the GPS:

PRISM is cognizant of the fact that pedagogical content courses in both SM are need if teachers are to be able to teach the GPS for understanding. As noted in the section above, more content-specific training will be offered to teachers. In addition, each of the regions has been responding to the need for content courses in a variety of ways. As noted previously, the PRISM Leadership Team has made teachers' content knowledge a priority for year 3.

Strengthening Learning Communities: As noted previously, two of our priorities are to strengthen the participation in Learning Communities and to bring correspondence between the work of Learning Communities and the defining elements in the PRISM Definition Document. We agree with the Site Visit Team's recommendation to strengthen the participation of IHE faculty in Learning Communities. We will build upon the following examples in which IHE faculty are already participating. For example:

- In the Southeast region, Regional Learning Communities consist of equal numbers of K-12 and IHE faculty.
- In the East Central Region, IHE faculty are involved in defining and implementing the goals of the Learning Communities. The Earth Science Learning Community was engaged in a week-long workshop, involving IHE faculty from both Geology and Biology.

Using Current Research in Learning Communities: The Research Committee will take responsibility for promoting and monitoring use of research to inform discussions in Learning Communities. We plan to build on Institute workshops on preconceptions and misconceptions that students have about SM, including how to use student work to identify issues with conceptions. We will use current literature on how to examine student work in framing conversations in various Learning Communities. Related material such as research or literature summaries, recommended protocols, and references will be disseminated to each of the Learning Communities through the Regional Coordinating Committees and made available on the PRISM web site. Regional Coordinating Committees will organize professional development sessions for Learning Community participants on how to examine student work based on current research and identified best practices. Learning Communities will be encouraged to implement the research-based strategies and then share across Learning Communities to develop a set of locally-endorsed protocols.

Some work is already underway. For example, in the Northeast region, the Regional Coordinating Committee has already provided resources to teachers and IHE faculty for their consideration:

- Mary Jo McGee-Brown has written a manual entitled, "Action Research Guide: P-16 Science and Mathematics Educators Making Positive Changes in Student Learning." She presented an orientation on the use of the manual for over 100 teachers and administrators in our partner school districts. We will continue to offer this resource to interested educators.
- A book on assessing student performance in the classroom: "Rubrics of Assessing Student Achievement in Science Grades K-12" by Hayes B. Lantz, Jr. (Corwin Press, 2004) was purchased for participants of the Math/Science Summit (a professional development conference for over 60 IHE and P-12 educators) and two Learning Communities. We will continue to provide up to date resources on assessing student learning and using student work to improve learning.
- In summer 2005, a Critical Friends Summer Institute, developed by the National School Reform Faculty, provided teachers with protocols for facilitating reflective dialog using

student work to raise expectations and improve student achievement. Lead Teachers in partner schools were encouraged to participate.

CHALLENGES/PROBLEMS THAT MAY IMPEDE THIS WORK OR ITS SUSTAINABILITY

Involvement of School Administrators in SM: The Partnership agrees with the Site visit Team's recommendation to increase the involvement of school administrators in professional learning opportunities for SM teachers. To date, principals all across our state have been trained on the GPS and the backwards design process. Principals also are active participants in our Regional Learning Community Workshops in which they learn how they can support teachers' professional learning through participation in Learning Communities. Some regions have an informational meeting with their principals each year while others update principals at their regularly scheduled principal meetings. Principals are also involved in approving professional learning requests and planning with lead teachers. During Year 3 the Partnership has a four-day workshop planned for K-12 teachers of SM and school principals on implementation of key instructional components of the GPS.

Teachers Examination of Instructional Materials Developed through Prior NSF Funding: The PRISM Leadership Team agrees with the Site Visit Team Recommendation to strengthen further its use of instructional materials developed through prior NSF Funding in its work to improve teacher working conditions. While some work in this direction has already begun, Sheila Jones, Project Director, who provides leadership for the Partnership in improving teacher working conditions, will incorporate this recommendation into her work.

3. CHALLENGING COURSES AND CURRICULA

EVIDENCE THIS KEY FEATURE IS BEING REALIZED

Continuity in the implementation of the GPS between the Georgia Department of Education and PRISM Regions: The GPS will drive instruction and assessment. DOE has been emphasizing to systems, schools, education leaders, teachers, trainers, and professional developers to no longer rely on textbooks as the curriculum. The DOE's website will be populated with GPS tasks, student work, and teacher commentary. The DOE website will feature resources for teachers to use as they implement the GPS. The mathematics framework and vertical alignment documents for schools in need of improvement will be distributed. The DOE's School Improvement division and the state's school improvement specialists will continue working with schools to align their school improvement plans to the GPS. The GPS Training will continue to focus on both pedagogy and content. Days 6, 7 and 8 in the GPS Training will feature much more content-specific training for teachers. The DOE encourages trainers to bring their instructional materials to share in the GPS Training. The DOE's task writing teams are collecting and reviewing instructional materials from many sources that can be used by teachers, and will pay special attention to collect and review NSF-sponsored instructional materials.

Schools, systems, university faculty, and professional developers at all levels will be needed to assist in sharing best practices in ways to implement the GPS, provide more content to teachers, and to improve pedagogy in standards-based instruction. Teachers will need access to curriculum materials aligned to the GPS and instructional materials that are inquiry-based, and they will also need a great deal of assistance in how to teach in a standards and performance-based environment. Teachers will now be required to assemble the instructional tasks students need in order to demonstrate their skills on standards.

In the PRISM Regions, professional learning in Learning Communities compliment and support the GPS Training. GPS materials and resources are shared between regions at the Lead Teacher Academies. PRISM will offer a GPS Academy for New Teachers this fall and in Year 3 that will allow 500 new teachers to share GPS materials, inquiry-based instructional resources, and teaching strategies with a cohort of learners. Higher education faculty have opportunities to help develop and disseminate GPS instructional materials with their colleagues, and to discuss strategies to assist K-12 teachers in implementing the GPS at meetings of the PRISM Institute on the Teaching and Learning of Science and Mathematics and the DOE/USG Higher Education GPS Conferences. In Year 3, the PRISM Leadership Team will use MSPnet to share GPS resources that are being developed with the Learning Communities and NSF-sponsored curriculum resources, materials, and best practices. We will work during our PRISM Leadership Team Retreat this fall to develop more communication and sharing between regions and DOE.

OPPORTUNITIES FOR GROWTH IN THIS WORK

GPS Alignments: The DOE will create a vertical alignment document for mathematics that will show grade to grade alignment by the specific mathematics content strands. This vertical alignment document will be placed on the DOE website and distributed to PRISM Regions through the PRISM Leadership Team.

The DOE is developing a mathematics framework for needs improvement schools that will distinguish complexity at different grade levels. The framework will serve as a curriculum map and will include unit organizers, tasks, student work, and teacher commentary. This framework will be distributed to all schools in need of improvement by the DOE and to the PRISM Regions through the PRISM Leadership Team. The DOE is discussing making this framework document available on the DOE website. Work is presently underway to develop content specific training related directly to this framework. The goal is to provide the support necessary for every teacher to know and understand the mathematics content specific to their teaching duties and responsibilities surrounding the GPS. The DOE website will also contain materials and resources on the science sequence.

Regional Cross-sharing of GPS Aligned Curricula: During the 2005-06 school year as the GPS are implemented statewide, information including tasks, student work, teacher commentary, and the mathematics framework for schools in need of improvement will be available for all teachers on the Georgia DOE website. This work will illustrate the expected level of rigor and what a challenging curriculum should look like. A “Bridge Institute” for new teachers will offer training in a cohort to five hundred (500) new teachers from across the state who have not yet participated in GPS training activities.

Each of the four regions has plans in place to provide additional regional opportunities throughout the 2005-06 school year for teachers to share the work they are doing in their classrooms to implement the GPS. Such opportunities include regional “GPS nights” for face-to-face sharing by SM teachers who are either involved in actual implementation or preparing for implementation and regional GPS subcommittees which facilitate sharing of ideas and materials. The possibility of utilizing MSPnet or other web-based formats for sharing experiences and curricular information across PRISM regions is currently being addressed.

CHALLENGES/PROBLEMS THAT MAY IMPEDE THIS WORK OR ITS SUSTAINABILITY

Greater Role for Regional Coordinating Committees and Learning Communities in Matching the GPS to Curriculum and Linking Textbooks to Standards: Moving to a standards-based educational system is a major curriculum reform effort, one that will take years to fully implement. The PRISM Leadership Team agrees that the change has to be broad-based. The RCCs are networks that should be utilized for many things, one of which could be to coordinate the alignment of GPS to curriculum. For example, the Northeast PRISM Region hosted workshops to review unpacked standards across the districts to begin to form a common understanding in the region. The Northeast Region hosted a week-long institute for partner school educators to work regionally to develop assessment tasks keyed to the GPS. Institutes such as the one just mentioned are discussed by the RCC so that we continue to build on the DOE training and PRISM professional learning offerings to make deliberate connections to the GPS. PRISM staff will encourage cross-communication between the RCC and Learning Communities to ensure that research is being reviewed and used to align the new standards with the curriculum being developed.

Higher Education Faculty Engagement in Challenging Courses and Curricula: While the statewide Institute has started in a splendid fashion with great enthusiasm from faculty participants, the regional institute counterparts have started more slowly and unevenly. Even so, since the regional institutes only started in summer 2004, they have been building rapidly especially through use of mini-grants. Together, statewide and regional institutes provide a platform for changing introductory courses and courses in SM for pre-service teachers to ensure that all courses adhere to our concept of challenging courses for higher education. Further, modules from these modified courses can be used to provide just-in-time learning for in-service teachers.

As an example of efforts the Atlanta Metro has developed a framework and defined roles for involvement of IHE faculty in a variety of activities that support K-12 SM. The Atlanta Metro RCC plans to vigorously recruit higher education faculty and high school teachers to participate in the Institute and in Learning Communities. Faculty roles include developer/designer of activities that support implementation of GPS through the Professional Learning Community SM Academy or GPS online team; coach on examining student work or scoring.

4. EVIDENCE-BASED DESIGN AND OUTCOMES

EVIDENCE THIS KEY FEATURE IS BEING REALIZED

Opportunities for Creating Generalizable Knowledge from Learning Communities:

The Evaluation Team is systematically collecting massive amounts of descriptive data on the K-16 model of Learning Communities including organization, implementation, participant experiences, and impact. We feel it is critical for us to understand the level of effectiveness of this model including what works well, the difficulties encountered, and strategies for addressing difficulties in order for the model to be adopted/adapted in other areas of Georgia and other states. We are collecting data to provide breadth of understanding (open-ended questionnaires from all participants descriptive of their experiences; demographic data on all participants, topics covered, resources used, and specialists invited to share in Learning Communities) and depth of understanding (individual interviews, focus groups, examination of student work with them that they implement as a result of Learning Community activities). A major goal is to discover the extent to which teachers are obtaining content knowledge and pedagogy that they need and how effectively they are translating this professional learning into classroom instruction and student learning activities. Each Learning Community is observed at least once by a member of the Evaluation Team; each Learning Community participant completes the ITAL and end-of year open-ended survey. A sample of participants took part in focus group interviews and they were observed using the RTOP. Additionally, PRISM leaders are interviewed formally and informally at regional and state meetings. We will be able to characterize each Learning Community within and across regions on many criteria including whether or not they are using research literature in their planning.

We are obtaining information on the issues and concerns that teachers face in unpacking standards collaboratively with higher education faculty in their Learning Communities and are using multiple evaluation strategies to describe strategies they are using to develop further professional learning that addresses specifically identified content needs, technology needs and pedagogy needs of teachers as they develop instruction based on the new standards.

As noted in the Introduction, while the Evaluation Team will work closely with the Research Committee, the latter will coordinate studies that will lead to generalizable knowledge. The PRISM Research Committee sees Learning Communities as a primary vehicle for research contributions that are generalizable.

QUALITY OF THIS WORK

Greater Use of Available Data: The PRISM Leadership Team is proud of the extensive use of data in the PRISM regions to guide decision making as to next steps. The Site Visit Team noted that the Metro Atlanta Region had not examined student achievement data that were potentially useful. The list below describes student achievement data that were examined by the Metro Atlanta RCC:

- Mathematics and science gate-keeping course enrollment and completion rates for Algebra I, Algebra II, Geometry, Calculus, Biology, Chemistry, and Physics.
- Traditionally underrepresented student enrollment in SM gate-keeping courses.
- Percent of first time test takers passing the Georgia High School Graduation Test in SM.
- Number of students taking and scoring at level 3 or above in Advanced Placement (AP) courses in SM.
- Percent of grade 4 students who met or exceeded the state standards in SM.
- Percent of grade 8 students who met or exceeded the state standard in SM.
- The gender gap in the rate of test takers in AP SM courses.
- The gender gap in the rate of test takers in AP SM scoring 3 or above.
- The ethnicity gap in the rate of test takers in AP SM scoring 3 or above.

Summative Evaluation: Limitations of the Instruments Developed to Measure Quality of Teachers' Professional Development: The recommendation from the Site Visit Team that we incorporate more recent research into the instruments used in the summative evaluation design is very important. The Evaluation Team discussed this before the project was implemented. The discussion was centered on the issue of whether we wanted to chance our instruments "driving" the nature of professional learning across regions, or whether to create open-ended instruments for in-depth and broad data collection that would allow us to describe completely the nature of professional learning as well as effectiveness of different approaches.

Each member of the Evaluation Team has evaluated multiple local, state and national projects. The Team is familiar with the literature on key components of effective professional learning. The Team has evaluated projects where critical content was presented through modeling effective instructional strategies, assessments, and multiple student learning approaches (individual, pairs, collaborative groups, etc); where one or more facilitators visited classrooms regularly throughout the academic year to assist teachers in implementation of content and strategies learned and experienced in summer workshops; and where teachers got together for weekend workshops throughout the academic year and met at professional science and/or mathematics conferences to present their work and action research results.

The Evaluation Team concluded that if it developed instruments reflecting components of effective professional development identified in the literature and based on effective professional learning its members have evaluated in other projects, that the Team might not only be "driving" the PRISM, but that it might close down the ongoing creativity of individual K-16 Learning Communities. The Evaluation Team decided that it was the responsibility of members of each Learning Community, RCC, and the Leadership Team to be familiar with research on effective professional learning, and then develop professional learning that incorporated components that fit particular needs of their teachers and students. The Evaluation Team believes its evaluation results will be able to be used not only to support or counter models of effective professional learning in the research literature, but that it can generate new models based on practices that emerge from the K-16 model of Learning Communities.

Summative Evaluation Design: Use of the ITAL with non-PRISM Teachers to Strengthen Causal Links as to the Impact of PRISM: The PRISM evaluation design for strategies 1 and 3

(Professional Development and Learning Communities) includes a quasi-experimental design as part of the evaluation mixed-methodology. The design used is the classic Pretest-Posttest, Control Group Design (Campbell, D.T. & Stanley, J.C. (1963). Because PRISM schools are being phased in on an annual basis, schools that will be PRISM schools in later years serve as control groups for current PRISM schools. Testing takes place on a spring to spring basis, with spring tests from the previous year constituting the pretests and the subsequent year being the posttest.

Gathering data from the regions has been a challenge. The Evaluation Team plans to use as leverage the Site Visit Team's recommendation that it gather ITAL data from non-PRISM teachers to gather data (in addition to ITAL) from non-PRISM schools. The Evaluation Team will be developing a survey to identify any district or school professional learning activities or Learning Communities that are *not* PRISM supported in both PRISM and non-PRISM schools in all PRISM districts. We will gather these data for Years 3 – 5 of the project.

Summative Evaluation: No Real Comparison Group: The PRISM Evaluation Team disagrees with the Site Visit Team's statement that there is no real comparison group. The quasi-experimental design described previously uses the non-PRISM schools as comparison groups for the PRISM schools. A case will be able to be made about what is happening **without** PRISM in schools that are not yet participating in PRISM. We argue that these schools constitute a "real comparison group."

The Evaluation Team has been negotiating for over a year with the Motivation Assessment Project RETA (MSP-MAP) to administer self-efficacy scales to teachers and students in PRISM schools. This project was given low priority for several reasons: the concern within regions about excessive data gathering, the lack of a PRISM goal addressing teachers' beliefs and attitudes, and inadequate resources for taking on additional data gathering. The Evaluation Team leader has reentered into negotiations with the MSP-MAP to see if targeted studies of teacher attitudes and beliefs can be conducted. An evaluation subcommittee will be formed to study this topic. The Public Awareness Campaign Director will be invited to participate in this evaluation subcommittee to ensure that the data gathered will inform *all* PRISM activities.

Summative Evaluation: Use of Research or Theory to Guide Decision as to which Data to Collect from Teachers: The major decision of what to collect from teachers has been based upon what data are needed to evaluate the implementation and outcomes that were specified in the PRISM proposal. Evaluation designs and logic models have been developed to guide the evaluation of all PRISM strategies and the evaluation designs were included as appendices of the Year 2 Annual Report and in the evaluation presentation to the Site Visit Team.

Surveys and interview protocols have been tailored to the purpose of the activity and the goals and objectives of PRISM. To that extent they are not theory-based. Theory forms the basis for the key measures adopted and developed for use in the evaluation of PRISM. The RTOP was included in the original proposal as the operational definition of reformed teaching and learning. The RTOP includes 25 assessment indicators that operationally define teaching and learning from the theoretical perspectives of social constructivism. Because of the labor intensity and expense involved in extensive classroom observation, a parallel self-report survey, ITAL, was

developed. Items were written to parallel the RTOP indicators and extensive factor analyses were completed. The scales in the ITAL closely reflect the indicators in the RTOP. A logical argument can be made that the theory supporting RTOP also supports ITAL. An additional scale was added to the ITAL to assess standards-based teaching and learning because that is a critical objective of the PRISM professional learning. A scale assessing use of traditional teaching and learning practices was also included on the theory that as use of inquiry- and standards-based teaching practices increases, use of traditional practices will decrease. Additional validity and reliability studies are being conducted to further support that validity of this instrument. The results of the year 1 version of the ITAL were presented at American Educational Research Association (AERA) annual meeting in April 2005. The results of a second revision and piloting of the RTOP during the spring of 2005 will be submitted for presentation at the 2006 annual meeting of AERA

We know of *no instances* where components were added to the evaluation instruments because of an evaluator's personal interest, as was suggested in the Site Visit Team Report. Occasionally indicators have been added to provide construct validity evidence to support the use of the instruments. For example, an indicator of student engagement (e.g., time-on-task) was added to the RTOP observation and assessment process to provide supporting evidence based on the theory that when inquiry is taking place, students are more engaged.

Generalizable Knowledge: How PRISM Activities are informed by Literature: During the Site Visit, introductory presentations only made reference to secondary sources. This decision was made in the interest of time constraints. However, the original proposal was based on extensive use of primary research literature. Use of primary sources has also been made to some extent in Structured Abstract summaries of current mini-grant reports. Future calls for mini-grant proposals will request that the proposed projects be supported by evidence-based data from the literature. This will be especially important for the soon-to-be-announced interregional proposals, which encourage scale-up of promising projects.

Our work on Learning Communities is grounded in the literature. We investigated extensively the research on Learning Communities of every type in existence. Members of our Leadership Team attended Learning Community workshops sponsored by DuFore and Eaker and Carlene Murphy. They then presented at Learning Community meetings and examined this literature base with participants prior to sharing the PRISM Learning Community Definition Document. Similarly, we examined primary literature on teacher retention that was presented to our Teacher Incentive Forum members prior to the forum. Our professional development Learning Community has examined all the literature available on designing professional development activities that will impact classroom practice.

As a regional example, the Southeast region is using the research literature on a moderate scale. IHE faculty both from SM and education often provide reading and resources for Learning Communities to study. Research based topics inform their evaluation criteria for Professional Learning and Action Research mini-grants.

Generalizable Knowledge: Absence of a Link between ITAL and RTOP: The Site Visit Team evidently received erroneous information about the ITAL. The ITAL was administered to

teachers via a web-based survey that was sent to them through their personal school email. The process is as follows: Each individual math and/or science teacher was assigned a unique code for survey administration purposes. All math and/or science teachers received personalized email (sent directly to their school email address) with a link to the ITAL survey. Embedded within the link is the individual's unique survey code. The individual's survey responses are tagged with their unique survey code. The unique survey codes are cross-referenced (on a separate database server) with actual teacher ID numbers. This methodology allows for safe and secure administration of the survey and provides the ability to match each teacher's ITAL responses with all other teacher data used in the PRISM evaluation. Identification information from the teachers who were observed using RTOP are also available. In addition to needing identifiers to link ITAL and RTOP participants, this information is needed to track change over time.

At the time of the Critical Site Visit, the RTOP and ITAL scores had just been processed and only preliminary descriptive results were presented. The Evaluation Team definitely plans to conduct correlation studies to provide both criterion-related and construct-related validity evidence to support the use of these measures. Coefficient alpha reliability coefficients are calculated for each administration of the ITAL and the RTOP for both the subscales and total scores to ensure that the measures are providing reliable data. It is unclear to the Evaluation Team what the SVT meant by the recommendation for “testing the reliability . . . of the instruments against each other, . . .” Reliability evidence is typically gathered in instruments separately except in the case of parallel forms of the same measure. ITAL and RTOP are different measures of the same construct.

OPPORTUNITIES FOR GROWTH IN THIS WORK

Summative Evaluation: Measure all of Teacher’s Professional Development: As mentioned previously, the evaluation design does include a quasi-experimental component. Because of the way schools are phased in to PRISM, schools that will be phased in later years serve as controls for the PRISM schools. Some of these “control” schools will not be phased in until the fourth and fifth years of PRISM permitting 2-3 years of comparison data. We are gathering ITAL data and student achievement data on SM teaching and learning in all schools in PRISM districts. The Evaluation Team will institute a plan for gathering data on non-PRISM professional development and Learning Communities in both PRISM and non-PRISM schools in PRISM districts. We will gather retrospective data for year 2 and data for all subsequent years. Gathering data on all professional learning being offered by schools, districts, RESAs and the state within PRISM districts will reduce the threats to the internal validity of the evaluation design.

Summative Evaluation: Calibration of a Theory of Action Model Against PRISM Instruments: As stated previously, the purpose of the evaluation was to assess the implementation of PRISM and progress towards meeting PRISM goals as well as the overall effectiveness of PRISM in improving teaching and learning in Georgia. Evaluation designs and logic models were developed to guide the evaluation planning and instrument development. In addition, PRISM uses the DIO (Design, Implementation, Outcomes) framework for using evidence in the design and implementation of PRISM. Management tools with self ratings are also used to track the progress of PRISM towards meeting the MSP Key Features.

The Evaluation Team would argue that an implicit theory of action underlies the research design for evaluating the impact of PRISM professional development and Learning Communities. The participant tracking and comprehensive qualitative and quantitative data gathering provide extensive evidence of the fidelity of various levels of implementation and participation in PRISM professional development activities that can be related to summative outcomes. Thus, measures of the nature of the PRISM activity, teachers' perceptions, degree of change, intensity of participation, etc. are being used to differentiate among the various PRISM activities which in turn could be related to the degree of actual changes in classroom practices and ultimately improved student learning in science and mathematics. The "theory of action" here, is thus based upon the extent to which teachers change as a result of immersion in PRISM and what changes eventuate in actual teaching and learning in classrooms that might reflect reformed teaching. The evaluation plan links three things: 1) degree of immersion in PRISM, 2) degree of change in teachers (e.g., teachers' beliefs and perceptions, content knowledge), and 3) actual changes in classroom practices (e.g., RTOP).

The PRISM Research Committee will consider developing a theory of action model to help guide the PRISM research agenda.

Summative Evaluation: Potential Use of University of Michigan's "Mathematics for Teaching" Instrument: The PRISM evaluation design and instrumentation addressed the PRISM goals in the original proposal and the emphasis in the proposal was on inquiry and standards-based teaching and teacher content knowledge. Pedagogical content knowledge is being assessed through selected RTOP indicators. As originally developed at Arizona State University, the RTOP indicators reflect pedagogical practices theoretically and empirically linked to teaching SM content. A case can be made that actual classroom observations are a better means of assessing pedagogical content knowledge than a paper and pencil tests. The ITAL assesses the same theoretical constructs as the RTOP and related evidence is being gathered through interviews, observations and open-ended surveys. The logical argument here is that low pedagogical content knowledge will be reflected in low scores on the RTOP and on other instruments and vice versa.

Data gathered in the regions will be incorporated into the PRISM case studies. Thus, the data gathered in Atlanta, using the University of Michigan's "Mathematics for Teaching" Instrument will be incorporated into the Metro Atlanta Case Study. Instruments used in other regions to assess pedagogical content knowledge will also be used by the Evaluation Team.

Summative Evaluation: Peer Review Network for Mini-Grants: The mini-grant program was established as a mechanism to foster IHE faculty involvement in investigating some aspect of SM teaching in either K-12 schools and/or college undergraduate science, mathematics, science education, and mathematics education courses. The quality of the research that the mini-grants support is under-girded by selection of proposals using a competitive process. For example:

- The Northeast region already uses a peer review system to evaluate its mini-grant proposals. Reviews are solicited from three individuals, some of whom are current grant

recipients. This format also will be used with the soon-to-be-announced interregional Mini-Grant Program, in which the reviewers will be drawn from at least two different regions.

- The East Central Regional Coordinating Committee appointed a committee to track and oversee the progress made by mini-grant awardees. The committee will be convened in August 2005 to review the status of grants and review the structured abstracts that are being used as reporting tools.
- Currently in the Southeast Region, both Professional Learning and Action Research mini-grant recipients are required to evaluate the effectiveness of their activities/projects in the following ways: 1) Document teacher change; 2) Collect data measuring impact on student learning; 3) Share results within school, district and regional Learning Communities; and 4) Make presentations and gain peer feedback at two regional events – the statewide Institute meeting and the Armstrong Atlantic President’s Symposium on Teaching and Learning.
- The Atlanta Metro region plans to analyze course evaluations, student grades, surveys, structured abstracts, etc. Proposals are evaluated at the end of each year to determine lessons learned.

Generalizable Knowledge: Coordination of Efforts to Create Generalizable Knowledge:

The Site Visit Team is correct in concluding that the generation of generalizable knowledge is beyond the scope of the Evaluation Team and not feasible given the already complex task of evaluating PRISM. There is no doubt that while some generalizable knowledge will derive from the evaluation, the main purpose of the evaluation is to evaluate the implementation and effectiveness of the various PRISM activities.

As noted in the Introduction, the Research Committee will assume the responsibility to oversee and coordinate efforts to create generalizable knowledge. This group will help identify areas that need study and methods to support faculty who are interested in conducting research on PRISM. This committee will draw on the intellectual resources of faculty from participating institutions. When needed, PRISM will seek the participation of faculty members from non-participating institutions.

Generalizable Knowledge: Recommendation to Organize Research to Practice Sessions at National Disciplinary Meetings: We thank the Site Visit Team for suggestions to present at national disciplinary sessions that connect research and practice. Showcasing the work of PRISM projects in a special session at a national meeting is an excellent idea that should become feasible once a sufficient number of projects have reached a mature stage. Since all mini-grant recipients are expected to write up their reports using the structured abstract format, it will be easier to analyze their results for ideas that can be replicated that could eventually lead to potentially generalizable knowledge. We have some examples where we have facilitated this type of presentation locally.

- The Northeast Region held the precursor to this type of session at its last regional institute meeting, during which current holders of mini-grants presented progress reports.
- We also had some presentations of work in progress at concurrent breakout sessions at the state-level Institute meeting in February 2005. We are planning for a similar set of

presentations at the statewide Institute meeting in October 2005. The PIs of the most promising projects will be encouraged to publicize their findings via presentations at national professional meetings and publications in national journals.

- The Department of Geology and Geography at Georgia Southern University is the host department for the annual meeting of the Southeastern Section of the Geological Society of America in Savannah in spring, 2007 and a symposium on Earth Science Education is already planned. Some mini-grant and Learning Community activities should have resulted in specific geologically-oriented work that will be presented at that conference, but other mini-grants, whose field research involves the use of global positioning systems, or research into the origins and composition of soils might also fit well with the theme of the session.

Generalizable Knowledge: Measuring Teachers' Growth in Content Knowledge: Both K-5 and middle grades content assessments have been developed in both SM. The assessments have not yet been administered. The Year 2 report that describes the content knowledge assessments.

"Science and Mathematics Content Assessment for K-8 Teachers. The original evaluation plan included assessing teachers on their SM content knowledge. Assessments to measure the content knowledge of teachers taking P-5 Endorsement courses and Middle Grades Concentration courses were developed. The consultants hired to develop these assessments were faculty members at Emory University. They used publicly released items from the National Assessment of Educational Progress (NAEP) and Third International Mathematics and Science Study (TIMSS) data banks. Items were selected to match the Georgia Quality Core Curriculum (QCC), Georgia Performance Standards (GPS), and the syllabi of the SM courses developed by the P-5 Consortia and the Middle Grades Endorsement courses that were developed as a part of an earlier Title 2 grant."

Generalizable Knowledge: Expanded Measures of Student Achievement: The Evaluation Team conducted an extensive study and entertained several models for gathering work sample data from teachers participating in PRISM professional learning and Learning Communities. There are several reasons why this methodology was abandoned.

- The grade level, subject and specific content varied across school, district and region. It was decided that a common rubric would not be possible given the variability of professional learning. Further, it did not appear that comparable data could be obtained across the different PRISM sites and activities.
- Because of this complexity, the resources needed to gather such data were deemed to be beyond the value of the data obtained.
- K-12 coordinators were very reluctant to ask for this type of additional data from their teachers. There was a feeling that teachers might balk at providing that type of data to the Evaluation Team when there was already so much data being gathered.

The Research Committee will investigate the possibility of supporting targeted studies involving gathering samples of teacher assignments and student work.

Generalizable Knowledge: Studying Unique Aspects of PRISM: We agree that special attention should be paid to studying in-depth unique aspects of PRISM such as the AAFT program; participation of SM IHE faculty in action research; growth of teacher knowledge through participation in professional learning; expanding measures of student achievement through analyzing teacher assignments and student work; changing the IHE reward systems; aspects of the Public Awareness Campaign; and a variety of insights that will probable emanate from the mini-grant projects. The Research Committee referred to previously will take responsibility for oversight of such studies.

Generalizable Knowledge: Viability of Gathering Specific Data on Well-Documented Misconceptions: Because of the complex nature of PRISM and the variety of grade levels, content domains and subject areas being covered in Learning Communities, the Evaluation Team decided that it was feasible to develop content assessments only for those courses that were common across regions, i.e., the consortium courses. The content assessments developed for the consortium classes (Strategy 2) were offered to all regions to use for evaluating strategy 1 if they offered professional learning that matched that content of the assessment. Developing assessments of common misconceptions that would be appropriate for multiple grade levels and multiple Learning Communities would be difficult. The Evaluation Team will review the list of Learning Communities and their goals and objectives to see if there are common themes that can be assessed.

CHALLENGES/PROBLEMS THAT MAY IMPEDE THIS WORK OR ITS SUSTAINABILITY

Formative Evaluation: Public Awareness Campaign: To date, the work that has been done on the Public Awareness Campaign has been Market Research. Those results are informing the Public Awareness Campaign which had not been launched at the time of the Critical Site Visit. The Market Research results have been presented to the PRISM staff on numerous occasions and were presented to the PRISM Leadership Team in early spring. The Public Awareness Campaign Director plans to share the market research findings at the September 2005 Retreat.

Additionally, an evaluation subcommittee is being formed to make sure that the data gathering and formative data gathered by the market research firm and the Evaluation Team are coordinated and mutually complimentary.

Summative Evaluation: The Evaluation Team leader has already requested additional evaluation support for the evaluation of the modified and/or redesigned strategies 5 and 8. Additionally, more support is needed to gather the quantitative benchmark data that is essential for tracking progress on the benchmarks as well as provide data for the summative evaluation. The Evaluation Team will gather data on non-PRISM professional development and Learning Communities in PRISM and non-PRISM schools in PRISM districts. We will be able to obtain cooperation from non-PRISM schools in PRISM districts because they will receive PRISM support in the future. We question the feasibility of getting cooperation from non-PRISM districts.

The time burden on participants is already enormous. They are providing data for the evaluation of PRISM, completing needs assessments and other instruments that are part of the data

gathering and research conducted by the regions and conducting their own action research. We question the feasibility of obtaining much additional valid information from teachers who are already overextended trying to learn new content, prepare for the new GPS and implement inquiry-based teaching and learning activities in their classes.

Generalizable Knowledge: As stated previously and as noted in the Introduction, the Research Committee will assume the responsibility to oversee and coordinate efforts to create generalizable knowledge. We agree that there are many and varied opportunities to conduct useful research on different aspects of PRISM. For example, we deliberately appointed a cultural anthropologist to the Strategy 10 committee, so that she could document and study the change process. While the mini-grants program is a successful strategy to involve IHE faculty in PRISM, fundamental changes in the incentives/rewards are needed to sustain the long-term involvement of IHE faculty.

5. INSTITUTIONAL CHANGE AND SUSTAINABILITY

CHALLENGES/PROBLEMS THAT MAY IMPEDE THIS WORK OR ITS SUSTAINABILITY

Changing the Higher Education Reward System: According to the Strategy #10 Cultural Anthropologist: “Sustainability of innovative ideas depends on continuity of external, and generation of internal resources; on reform goals that are compatible with system priorities; and structural changes that “fit” with the pre-existing system(s). Most importantly, sustainable reform demands popular participation by the targets of change in all the phases of an innovation cycle, development of a civic consciousness through shared vision and practice of reform by those within the system(s); and the development of “guardians of the innovation,”—a self-conscious cadre of change agents within the system partnerships that reconstruct an institutional culture to encompass policy, resources, practices, and ideology introduced by the innovation.”

The Strategy #10 or Rewards Structure Committee is addressing all of the above elements to meet the challenges of this strategy. One of the ways is through the involvement of diverse groups of faculty and administrators. For example:

- Focus groups with 60 SM and 18 education faculty were held in the four PRISM regions to establish contextual background about faculty opinions of K-12 education in preparation for the symposium.
- These qualitative research data were used in the design of the faculty Symposium where 170 faculty members from 28 institutions provided further qualitative data on their views about a reward system and involvement in K-12. Ethnographic analysis was conducted to determine core themes within, and across, each category of participants.
- In addition, follow-up discussion groups were held after the Symposium at a number of the institutions.

The Committee is also addressing sustainability at the System, University, College, and Department level in both the policy and practice arenas. Through the creation of an Implementation Framework, the Committee has identified a number of indicators to facilitate

policy change and to develop practice pilots. The Committee has recently completed a draft of a new System policy to advocate for the involvement of higher education faculty in K-12 schools. This “advocacy policy” at the University System level will provide the umbrella for institutions to use in developing similar policies or procedures.

Several of the PRISM institutions have made significant progress toward implementing a new reward structure at the institutional level in both the policy and practice arena. Other institutions are beginning discussions and pilots under the auspices of the Strategy #10 committee. A few examples are given below.

- The Provost of Armstrong Atlantic State University is a strong advocate of PRISM. With the involvement of key faculty, he created a new Academic Affairs Strategic Plan that emphasizes the importance of faculty participation in K-12. The plan specifically states that deans and department heads will be assessed on their effectiveness at promoting and achieving the involvement of their faculty in K-12.
- The University of Georgia will host a dialogue about faculty rewards/incentives at an upcoming meeting that will include faculty from the Colleges of Arts and Sciences, Education, and Agricultural and Environmental Sciences, and several administrators from these units and from the central administration. Prospects appear good for creating a heightened appreciation of the value of faculty participation in K-12 issues, and equally importantly, for providing resources that reward such participation. It should be noted that the President of the University of Georgia served on the commission of the Business-Higher Education Forum that produced the recent report "A Commitment to America's Future: Responding to the Crisis in Mathematics and Science Education". This report describes a blueprint for action that essentially parallels the key features of PRISM.
- Georgia Southern University began work several years ago to revise their faculty workload policy and to develop a roles and rewards document. The faculty and administrators are now in the process of defining that policy and the roles and rewards for faculty for each of their colleges. With the help of the Strategy #10 Committee, they will begin to move the discussions in a structured way. Each college will translate the roles and rewards document to the College and Department levels. The process will define ways to recognize work being done and will identify ways to recognize and reward the work of faculty in K-12 schools. A retreat with the provost, deans, department chairs, and selected faculty leaders from all colleges is planned for fall 2005.

We agree with the Site Visit Team that faculty need to have their PRISM work recognized as an academic activity and/or scholarship of teaching. We also agree that it is essential to have support from the highest levels of administration. The current approaches being followed in the Strategy 10 initiative should lead to a positive change in the reward structure. There is clearly a strong presence of high level administrators as well as key faculty involved in this important strategy. Also, having a cultural anthropologist involved, whose research area is the study of cultural change, is aiding significantly in design and implementation of the change process.

Teacher Working Conditions: The PRISM Leadership Team recognizes the complexity of improving teacher working conditions. We agree with the statement of the Site Visit Team that:

“The success of this strategy will depend on strong administrative support, substantial financial commitment from the state, commitment from higher education institutions to work closely with K-12 schools to provide ongoing support, and commitment from K-12 to improving teaching conditions, as well as the quality of teaching. Effective, organic partnerships on many levels are essential for this strategy.”

In work to date, we have built a base of administrative support for improving teacher working conditions through the participation of school administrators and teachers in development of the seven Teacher Incentive Models being piloted in the four PRISM regions beginning in fall 2005. With the Georgia Department of Education as a strong partner in PRISM, it will be possible for recommendations from the PRISM pilots to be considered by the State Board of Education.

Through its partnership with the Georgia BellSouth Quality Learning and Teaching Environments Initiative, funded by BellSouth-Georgia and the BellSouth Foundation, PRISM has attempted to position the outcomes and recommendations from the BellSouth pilot on the agenda of state policy leaders. For example, two PRISM school districts that were part of the pilot received powerful information about what actions are needed at both the local and state levels to establish working conditions that support teachers and enhance the learning of students. The teacher response rate to the teacher survey on working conditions in participating school districts in the pilot was 83%. Pilot school-community partnerships are meeting regularly to address the survey results. State partners in the BellSouth initiative include the Board of Regents of the University System of Georgia, Georgia Department of Education, and the Governor’s Office, which provide high level policy forums to consider the recommendations that come from this BellSouth supported pilot.

The Governor and State School Superintendent have already taken one important step in improving teacher working environments by introducing the Master Teacher-Academic Coach Bill in the 2005 session of the Georgia General Assembly and getting it approved. The Governor has appointed an Implementation Committee, which includes the PRISM PI, to develop the framework and guidelines for implementation of this Bill. The State School Superintendent has placed science and mathematics at the top of the priority list for implementing Academic Coaches in the public schools. The PRISM regions will serve as demonstration sites, beginning in FY 2006, in implementing SM academic coaches in PRISM core partner school districts. They will build upon the early experimentation with Academic Coaches already under way in four core partner school districts: Camden, Glynn, Chatham, and the Atlanta Public Schools. As demonstration sites for the State, PRISM sites will inform the development of Georgia’s Academic Coach model(s). The Master Teacher component of the Bill will provide a “career ladder” for teachers, which is clearly established in the literature as one key component of improving teacher working conditions.

Maintaining the participation of higher education partners beyond the NSF grant as a factor in improving teacher working conditions is a key element of the PRISM design—changing the faculty reward system in ways that recognize and reward arts and sciences and education faculty for their work with the public schools.

Involvement of IHE Faculty in Schools in a More Organic Way: Organic K-16 partnerships that are being developed and strengthened through PRISM build upon the foundation of P-16 local partnerships that have been emerging in Georgia throughout the past decade—since the P-16 Policy Direction was established by the Board of Regents in 1995. The PRISM regions have made considerable progress in solidifying K-16 partnerships and each builds upon the strengths of the schools, colleges, and university in its region. Illustrations of regional efforts to work toward sustaining K-16 partnerships follow:

- The University of Georgia (Northeast Region) already has involved faculty in all the professional development activities that originate in that region. IHE faculty were heavily involved in the planning and execution of two professional learning opportunities for teachers, Math for Middle Grades course and the Mathematics and Science Summit. IHE faculty have also teamed up with the schools or districts to write additional grants for specific types of professional learning. The Northeast Region has also established Principles for Professional Learning that emphasize sustained involvement of IHE faculty.
- Georgia Southern University has a robust group of IHE faculty who have been involved in developing specialized mathematics and chemistry courses that were offered this summer (2005). An advantage that Georgia Southern might enjoy is that its graduates tend to work in close proximity to the University; former university students (now teachers in the public schools) are already familiar with the IHE faculty, and are oftentimes only a short drive away from campus. IHE faculty, public school teachers, and members of the RCC are already acquainted through years of contact, and in many cases are close friends. The strength and significance of this relationship cannot be overstated, and will lead to continued, thorough, and valuable relationships between IHE faculty and the public school teachers and administrators.
- The Southeast Region involves IHE faculty very effectively and in multiple ways in professional learning and curriculum planning. In 2005-2006, the K-16 Learning Communities will participate in co-observations to help develop the needed professional learning. Key items in the Southeast Region which build connections among IHE faculty, Learning Communities, and professional learning are the criteria used for funding of the regional mini-grants. The evaluation criteria include:
 - Professional learning arises from a PRISM Learning Community and is ongoing in that Learning Community with support from IHE faculty.
 - Professional Learning involves collaboration of IHE faculty and K-12 faculty in planning, delivery, and follow-up activities.
- The Atlanta-Metro Region will host the Mathematics and Science Academy for Teachers (MSAT) that allows teachers in that district to work with university faculty in the implementation of the Georgia Performance Standards, and to ensure that meaningful content knowledge is purposefully embedded in the units designed for students. This summer (2005) the region had over 300 teachers involved, and the course outline developed by the IHE faculty will be modified based on feedback from the evaluations.

6. PARTNERSHIP UNIQUE GOALS—PUBLIC AWARENESS CAMPAIGN

OPPORTUNITIES FOR GROWTH IN THIS WORK

Gathering More Detailed Information to Enable Use of Differentiated Strategies for

Different Groups: At the outset, the PRISM Public Awareness Campaign (PAC) team recognized the limited amount of resources it had to implement the Campaign throughout the four PRISM regions. This is partially why the Market Research sought to gather detailed demographic data to assist in creating regional segmentation that would assist in building the Campaign's public and community relations strategy. As the PAC Team looks to gather even more data to better address regional differences, the Evaluation Team leader will meet regularly with the PAC Director to identify the type of additional data that could be provided by the Evaluation Team.

While gathering additional data will help in differentiating the topics and issues raised during regional "town hall" meetings, the Market Research does suggest that many of the overarching messages parents, students, community members and educators need to hear are essentially the same.

The PAC Team plans to solicit greater regional involvement in efforts to reach parents, guardians, and civic and community organizations. Regions are already suggesting ways in which their school districts and communities can promote the PAC. Some are interested in starting SM mentoring programs for those students with the greatest need. All are eager to create programs/events geared toward providing support and information to parents – either through SM "parent nights" or "parent universities". The intent is to give parents the tools they need to help guide their children in course selections and to help parents with resources that will assist them in getting the help their children need to successfully complete SM coursework.

Intriguing Questions Raised through Market Research: The Research Committee referred to previously will take responsibility for working with the PAC Team to study this unique aspect of PRISM. The PAC has an opportunity to incorporate additional quantitative instruments during the retesting phase in March 2006. The usefulness of any new research should help to differentiate the discussions the team has with parents of color as they meet and talk with parent groups and organizations. It will be important to involve the various regions since the demographic profiles vary significantly from region to region.

Stronger Linkages between State Level Work and Regions: The Public Awareness Director has been keeping the PRISM Leadership Team informed about the Market Research phase of the Campaign. Now, as the Campaign begins its larger public relations and marketing efforts, keeping the district and regional level leadership teams in tune has become the new focus. In fact, the public relations consultants have already initiated publicity efforts to get the regions involved in the Campaign.

As the new marketing material is being developed, regional teams will participate in “testing” collateral ideas to help shape the marketing aspect of the Campaign. Also, as the actual media placement begins, regions will be given supporting material to help broaden the Campaign’s reach and potential within various demographics throughout the four PRISM regions.

One of the challenges the PRISM Public Awareness Campaign faces is that each school district within the regions all conduct their own awareness or engagement campaigns/activities that are not necessarily associated with the PRISM initiative and/or science and mathematics achievement. Consequently, the PAC will need to partner with individual school districts to leverage these campaigns and create tie-ins whenever possible. Most likely, these awareness campaign connections will occur either through joint marketing or utilizing broadcast mechanisms in place through the school district or the University System resources.

In the case of the Atlanta Public School system’s public radio and television stations, the PAC Team has already established a working and business partnership with both stations and will begin to negotiate air time, rates and space as soon as PRISM public service announcements are ready for broadcast.

CHALLENGES/PROBLEMS THAT MAY IMPEDE THIS WORK OR ITS SUSTAINABILITY

Getting the Messages to Families with Low Levels of Education: There are many aspects to building a campaign that will be sustained and owned by the communities it seeks to reach and serve. While behavioral change occurs slowly, the first step in creating that change is involving the person or groups you are looking to persuade to change. In our case, the PRISM PAC Team must go to those community groups, organizations, meetings—to those places where parents and students are to show the correlation between student completion of challenging courses in SM and future opportunities. We must collaborate with groups and organizations already in the community to support their messages of achievement, success and effort.

The PRISM Public Awareness Campaign’s messages are universal for parents with school-aged children: (1) involvement does make a difference; (2) you are the single most important influence in your child’s life; (3) your child’s tomorrow depends on decisions made today. Driving home these messages will require buy-in from business, community, faith-based and civic partners all interested in SM student achievement as we look to influence and change behavior.

Pedagogical/Disciplinary Expertise on the Public Awareness Campaign (PAC) Team: The Site Visit Team rightly identifies the absence of individuals on the PAC Team who have pedagogical and disciplinary expertise. In the early phase of the Campaign, the intent was to focus on completing the Market Research, which required the expertise of the external consultants. The PAC has recently added public relations and media consultants to its team. It is now time to bring educators and disciplinary faculty to the team to participate in the substantive decisions as to how best to act on phase 1 (market research) through phase 2 (public relations and media). As mentioned in the Introduction, following presentation of the Market Research, at the September 2005 retreat, the Regional Coordinating Committees and the Leadership Team

will determine how best to integrate educators and disciplinary faculty into the PAC Team and how best to integrate the PAC with the other PRISM strategies.

Sustainability of the Public Awareness Campaign: One of the companion initiatives to PRISM is called Education Go Get It (GO). Go is a public engagement campaign which seeks to raise educational aspirations in Georgia with specific foci on increasing high school graduation and college participation rates. Student success in SM at every level of the educational continuum is critical to the success of GO's mission. Beyond the PRISM grant, it is the intent of the PRISM PI, who also oversees GO, to integrate the PAC and GO into a single, sustainable campaign based upon lessons learned through the PAC while funded by NSF. The PAC has learned much (and will continue to do so) about messages needed to influence parental and public opinion and student behavioral change in SM. These lessons can be used to drive important messaging on SM through GO beyond the PRISM grant. Since GO is state funded there is great likelihood that it will be sustained indefinitely. In addition to its more general mission, GO would take on a specific focus on increasing student success rates in SM, K-16. Brian Dominguez, Director of GO, and Rosalind Barnes, Director of the PRISM Public Awareness Campaign, are already beginning what is intended as a long and sustainable partnership.