

# Florida PROMiSE Partnership to Rejuvenate & Optimize Mathematics and Science Education

## 1. Project Summary

**PROMiSE** addresses the need to improve the mathematics and science (M/S) achievement of students through teacher professional development (PD). Florida PROMiSE is a partnership among the three Florida Public Research – Flagship Universities (**USF, FSU, & UF**), four large school districts (**Miami-Dade, Hillsborough, Duval & Seminole**), educational consortia (Heartland Educational Consortium (**HEC**), Northeast Florida Educational Consortium (**NEFEC**) & Panhandle Area Educational Consortium (**PAEC**)), **Florida Virtual School**, and **Horizon Research Inc.** PROMiSE lays the foundation and leads development and implementation of large-scale, systemic PD and teacher education programs to significantly improve learning in M/S of *all* students by working collaboratively with a statewide network of stakeholders to implement the new mathematics and forthcoming science standards.

**PROMiSE** utilizes a **3-Tier approach** to its work that will span the 3-year development and implementation period, with an emphasis on Tiers 1 and 2 during Year 1. The focus of **Tier 1** is to raise awareness about the standards and enhance the ability of schools, districts, and communities to provide a supportive context for teachers to implement high-quality, standards-based M/S instruction. Tier 1 will reach the largest number of teachers of M/S through engagement in PD sessions designed to (1) increase teachers' understanding of the new M/S **Sunshine State Standards (SSS)** and their implications for instruction, and (2) raise teacher awareness and use of available curriculum resources for planning standards-based M/S instruction. Administrators will also engage in PD to learn how to support the implementation of the M/S standards in their schools.

**Tier 2** focuses more intensively on building capacity in the system to implement the M/S standards. Instructional leaders, both teachers and administrators, will engage in in-depth PD using a variety of research-based PD programs to enhance their knowledge and skills so that they are able to facilitate PD, support **professional learning community (PLCs)**, and sustain PD efforts at the school and district levels. As part of Tier 2, new teachers, including **Alternative Entrants (change of career individuals)** and teachers new to Florida, will participate in **induction programs** to help them understand the M/S standards, student learning expectations, and methods for effectively implementing the M/S standards. University M/S teacher education courses that are aligned with teacher training and that embed information about the new M/S standards, content, and pedagogy will be made available to enhance teacher knowledge. Finally, **Tier 3** activities will lay the groundwork for the development of university-based teacher education programs for **M/S teacher leaders** that can occur after the funding period and with other funding streams.

## 2. Need for this Project

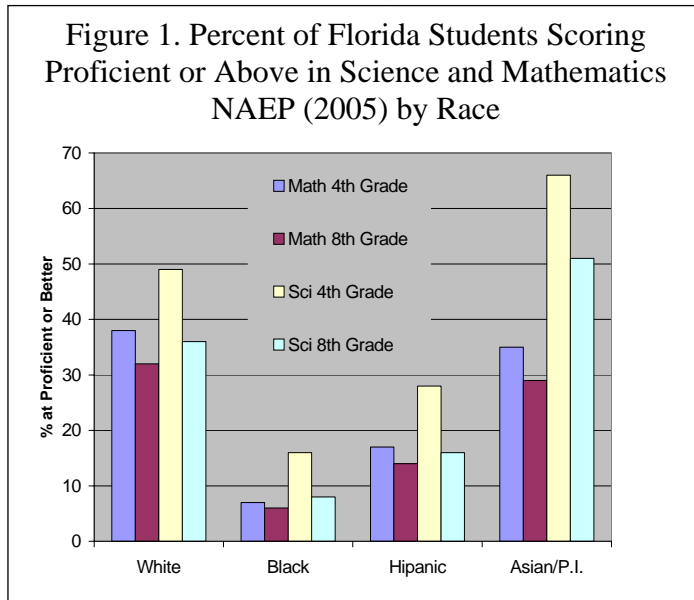
On the national level, the need for improved Science, Technology, Engineering, and Mathematics (**STEM**) education has been extensively documented in over a dozen recent reports, most notably, the book "The World is Flat" by Tom Friedman (2006) and "Rising Above the Gathering Storm" by the National Academy of Sciences (NAS) (2005). National Science Foundation (NSF) data indicate that **80% of the workforce now needs M/S skills**, and that 32% of the current workforce is in science, engineering and related professions (NSB 2006). The October, 2006 U.S. Chamber of Commerce's Education and Workforce Summit (USCC 2006)

noted that “The current lack of U.S.-trained scientists and engineers is a direct threat to the leadership of U.S. innovation.”

At the present time, **Florida ranks 46<sup>th</sup> in the nation in STEM degrees**, making it difficult to attract innovation and technology-based industry. A high quality education in M/S is not just a matter of Florida’s economic survival, it also is essential in “personal decision making, participation in civic and cultural affairs, and economic productivity” (NRC, 1996). PROMISE will attend to both workforce and literacy concerns in working to strengthen mathematics and science education for all students in Florida.

- **The magnitude of the problem is evident and the need for the services is apparent**

Several major assessments of M/S achievement underscore the lack of strong academic achievement in these areas for a large number of students in the United States, particularly at the middle school level (Loveless, 2004; National Center for Educational Statistics (NCES), 2006). Improving M/S education will, we believe, require M/S teaching approach that engages students, makes M/S meaningful and relevant, pursues fewer topics in greater depth, and emphasizes inquiry and problem-solving skills.



In Florida as well as in the rest of nation, **females and minorities constitute 75% of our future workforce**, but these groups are traditionally **underrepresented in the STEM fields**. Student achievement varies widely by race (Figure 1); the gap must be reduced dramatically. Florida MUST make M/S education a top priority for these underrepresented groups. **Teachers who are culturally competent are able to work effectively across behavioral and attitudinal characteristics shaped by the cultures of their students’ backgrounds** (Rosebery, 2004; Settlege & Southerland, 2007). Most teachers come from middle-class, white backgrounds, and they need to internalize that students’ patterns of attitudes and behaviors

may be different from the teachers’ but not judge them as either desirable or undesirable.

- **PROMiSE focuses on identified needs of the targeted population, on those with greatest needs, and is strongly justified through supportive data**

The following sections illustrate the relationship between identified needs (weaknesses), project goals, and activities and links to funding priorities. By effectively addressing these needs, **PROMiSE seeks to enhance K-12 student performance in M/S throughout the state**. Achieving this goal is a long-term process, requiring progress in multiple areas over the project’s three-year period and beyond. Therefore, PROMiSE has established a focused set of goals and objectives to guide both the design and the implementation of project activities.

**Need 1: Florida teachers and other stakeholders are not aware of the new mathematics and forthcoming science standards**

**Goal 1: Increase familiarity with the new M/S Sunshine State Standards and the implication of the Standards for M/S instruction and achievement. (Priorities 1, 2 & 7)**

Objectives	Activities
<ol style="list-style-type: none"> <li>1. As a result of an ongoing public relations campaign, teachers and other stakeholders will increase their awareness and understanding of the standards and the implication of those standards for students in Florida.</li> <li>2. After participation in 3 days of PD, teachers of M/S and administrators will increase their understanding of the standards for particular grade level bands (K-2, 3-5, 6-8) or topics (e.g., Algebra or Chemistry) and the implication of the those standards for curriculum, instruction, and assessment.</li> </ol>	<ol style="list-style-type: none"> <li>1. Develop or extend existing presentations, policy briefs, and other mechanisms (e.g., public service announcements, posters) to inform teachers and other stakeholders about the new M/S standards and differences they will encounter.</li> <li>2. Deliver presentations about the standards during teacher, department chair, or principal meetings, and organizational meetings (e.g., FASA, FAISA, etc.).</li> <li>3. Deliver PD to engage a large number of teachers in the examination of the new M/S standards.</li> </ol>

Florida recently approved new mathematics standards and will approve new science standards in the near future. These new **standards represent a significant shift from the standards previously in use** and lay the foundation for the approaches needed to achieve the goals for M/S in Florida. For example, the K-8 mathematics standards reorganize the content and focus on depth of understanding rather than breadth of content coverage. It is anticipated that the new science standards will follow this pattern as well. Implementation of the new M/S standards will require 1) dissemination of information about the new standards so that they are understandable to all **stakeholders (e.g., teachers, administrators, district-level personnel, PD providers, publishers, parents, and the general community)**, 2) providing PD to increase teacher preparedness to teach the standards (i.e., enhanced content and pedagogical content knowledge) in ways that lead to effective student learning, 3) preparing stakeholders to **support the implementation of the standards**, and 4) providing **information and technical assistance** to aid in the selection and use of instructional materials to ensure that the standards are taught effectively (e.g., curriculum planning tool). While some teachers already engage their students with instructional strategies aligned with the standards, the real challenge is to support *ALL* teachers of M/S in Florida to develop the content and pedagogical background needed to adopt the effective teaching strategies envisioned in the new standards (FLDOE "Critical Teacher Shortages 2007-2008, February, 2007 <http://www.fldoe.org/evaluation/pdf/crit1200.pdf>). PROMiSE will use various means to provide information to Florida stakeholders about the M/S standards and their implications for curriculum, instruction, and assessment.

**Need 2:** A significant portion of teachers of M/S lack content and pedagogical content knowledge to support the implementation of the new M/S standards in ways that address the needs of Florida’s diverse student population.

**Goal 2:** Enhance the knowledge and skills of teachers, including new and ESE teachers, of M/S to plan and implement instruction that leads to effective student learning.

(Priorities 1, 2, 3, 5, & 7)

Objective	Activity
<ol style="list-style-type: none"> <li>1. Increase teachers’ understanding of the key concepts needed to effectively implement the new M/S standards.</li> <li>2. Increase teachers’ understanding and use of research-based pedagogical strategies, including the incorporation of technology that will address the needs of all learners (e.g., students with disabilities, ELLs, &amp; minorities).</li> <li>3. Increase teachers’ awareness about and use of available curriculum resources and tools for planning standards-based M/S instruction.</li> </ol>	<ol style="list-style-type: none"> <li>1. Design and deliver PD modules to enhance content and pedagogical content knowledge of teachers for grade bands (K-2, 3-5, 6-8) and high school topics (e.g., geometry) to meet the needs of a diverse student population.</li> <li>2. Design and deliver PD modules that take into account the special needs of new teachers (e.g., alternative entrants), including laboratory training.</li> <li>3. Mentor and support new teachers, particularly alternative entrants, during their induction period.</li> <li>4. Design and deliver university courses that address the new M/S standards and their implications for curriculum, instruction and assessment.</li> </ol>

**M/S Content and Pedagogical Content Knowledge**

Research has shown that even when U.S. teachers indicate awareness of reforms in mathematics teaching practices, the changes in their instruction typically “remained at the margins” of the reform (Hiebert & Stigler, 2000). While, teachers frequently indicate that their implementation of reform mathematics education focused on features such as real-world problems and cooperative learning groups as vehicles for instruction, the evidence indicates that students are asked to complete tasks at a recall level. In addition, students in U.S. mathematics classrooms spend an overwhelming majority of seat time practicing routines rather than generating ideas. Further, U.S. teachers were observed stating mathematical concepts, such as the rule for computations or procedures far more frequently than their international counterparts who spent significant time developing student understanding of these concepts. Other indicators such as instances of working through proofs or reasoning deductively showed stark comparisons between the U.S. and other nations. Still further, U.S. **teachers focused on skills 61% of the time and thinking only 22% of the time**, while Japanese teachers focused on these areas 25% and 73% of their time, respectively. While not as stark in comparison, similar differences may be evident for U.S. science teachers (NCES, 2006b).

While not a sufficient indicator of teacher effectiveness, certification is one measure of teacher quality. Table 1 documents that a **substantial proportion of Florida’s M/S teachers are not certified to teach in these areas**. Other evidence also suggests major gaps in the content knowledge of Florida teachers in these subjects. For example, baseline data from the MSP-funded, multi-year Projects LAUNCH and SMART (362 participants; Howard 2006) showed that only 39% could answer science items correctly (e.g., questions related to the solar system). Only

20% of 164 elementary teachers entering Project SMART could answer correctly questions that dealt with earth science content. Ninety-nine middle school teachers answered correctly only 28% of items. Similar data are not available for mathematics. However, only 37% of elementary and 56% of middle school mathematics teachers reported feeling well prepared to teach mathematics, and only 41% of middle school teachers reported feeling well prepared to teach algebra, functions, data and measurement. **Only 22% of middle school mathematics and 56% of science teachers had completed the number of courses required to qualify for a major or minor in the subject area.** Clearly, it is important that Florida strengthen the new and continuing teacher corps.

	Mathematics	Science
All teachers	12.5%	11.5%
New Hires 2000-2004	16.9%	14.4%

Source: FLDOE 2005a and 2005b

**Instructional Technology.**

New information and communications technologies offer real possibilities to improve learning and sustain student interest, especially in the challenging domains of M/S. Games, stories and simulations can contribute to deeper understanding if properly supported (Merrill, 2002; Milrad, Spector & Davidsen, 2002; Seel, 2003; Spector, 2000). Although instructional **technology can be used effectively to enhance learning** in certain contexts, evidence of those improvements **have yet to occur on a significant or sustained scale** in American schools (Dynarski et al., 2007; Spector, 2000). After a decade of NSF funding to support the use of the Internet in science education, a major research finding showed that learning gains were marginal and not sustained (Feldman et al., 2000). The primary reasons cited were lack of proper preparation of teachers and failure to establish clear and specific expectations with regard to student interactions with the teacher, technology, and other students. Moreover, a reason often cited for the failure of games and simulations to systematically produce improvements in learning is that the objectives are not often or easily linked to a specific instructional objective – especially for more complex subject matter (Fletcher & Tobias, 2006). To ensure that technology will be used effectively to enhance M/S learning, PROMiSE will address instructional technology as an integral part of the PD offered to teachers. The goal is to help teachers understand that technology (e.g., graphing calculators, data collection devices) is not an “add-on” feature of instruction, but instead a tool to support deeper conceptual learning.

**Addressing the needs of a diverse student population.**

In order to provide leadership to support the implementation of the standards, **teachers and administrators need competencies and skills to work with students who are racially, ethnically, culturally, and linguistically diverse.** As part of its PD programs, PROMiSE will aim to develop teachers’ and administrators’ cultural competence -- skills to work with and serve diverse individuals and communities. In the M/S classroom, cultural competence is illustrated through the ability to attend to the needs of the underserved in M/S (including girls, racial/ethnic minorities, English Language Learners, and students with disabilities) in ways that integrate cultural attitudes, beliefs, and practice to enhance student learning and achievement. We will consider the use of various models and tools (e.g., Cultural Competence Asset Model) to encourage schools to examine not only academic issues, but also the cultural implications of

achievement data. **The goal is to use achievement data to systematically eliminate cycles of academic and institutional failure.**

PROMiSE will make use of a framework for **ensuring that M/S are accessible to ALL students**. This framework, initially developed for mathematics and to be extended to science, is predicated on four anchors that incorporate effective mathematics practices for all students, including those with disabilities (Allsopp, Kyger, & Lovin, 2007). These anchors are viable for all students who have not been well-served by the educational system. These four anchors include:

*Anchor #1: Teach the Big Ideas of Mathematics/Science.* An emphasis of PD at the preservice and inservice levels will be placed on teachers understanding the depth of these “big ideas” and how they connect to specific M/S standards, and how to apply effective instructional practices for helping students understand and become proficient with these big ideas.

*Anchor #2: Use Effective Assessment Practices.* The integrated implementation of four effective mathematics assessment practices (student interests, CRA Assessment, Error Pattern Analysis, Flexible Interviews) is an effective and efficient process for obtaining this information about what students do or do not understand and why (Allsopp, Kyger, Lovin, Gerretson, & Ray, in press). The process, called a mathematics dynamic assessment, and the analogous science dynamic assessment, will be an important component of focus for PD at the preservice and inservice levels.

*Anchor #3: Implementation of Research-Supported Instructional Practices for Students.* Two important aspects of knowledge, the “why” students have difficulty learning M/S and the “how” to teach in ways that address these needs will be emphasized in PD. Fifteen research-supported assessment and instructional practices are the foundation for this component of the proposed project. These practices include:

- Instructional Practices for Building Acquisition
  - Teach Within Authentic Contexts
  - Concrete-to-Representational-to-Abstract Sequence of Instruction
  - Explicit Instruction
  - Metacognitive/Strategy Instruction
  - Teach the Big Ideas
  - Scaffolding Instruction (High Teacher Support – to – Low Teacher Support)
  - Language Experiences
- Instructional Practices for Building Proficiency/Mastery
  - Structured Cooperative Learning Groups
  - Structured Peer Tutoring
  - Instructional Games
  - Self-correcting Materials
  - Planned Discovery Activities

PD will help preservice and inservice teachers think about and implement appropriate accommodations and instructional modifications to address common learning difficulties students demonstrate (e.g., inattention/distractibility, memory/recall, understanding/comprehension) (Priorities 2 & 5). A structured process for selecting and/or adapting instructional materials curricula to meet the needs of all students (Allsopp, Kryger, & Lovin, in press) will provide educators an informed framework for making appropriate decisions.

*Anchor #4: Continuous Monitoring of Student Performance.* Frequent monitoring of student understanding is essential because it provides teachers a timely process for knowing whether students are or are not learning the concepts presented. When students are involved in evaluating

their own learning, they also become empowered to understand why their teachers teach as they do, thereby encouraging engagement in the learning process.

**Resources Committed to Support the Access Points for Students with Disabilities.** A primary resource that will support this framework to support access points for students with disabilities is the *MathVIDS* website (<http://coe.jmu.edu/mathvids2>) which has received the Governor’s Silver Award for Innovation in Technology (Virginia) and has been selected by multiple national research and advocacy organizations in special education and mathematics education as a valuable resource link. The *MathVIDS* website is a multimedia and interactive site where video models of real teachers in real classrooms demonstrate research-supported practices for students with disabilities and other learning difficulties. A “talking points” video narration helps teachers understand how teachers in each video clip address the learning needs of students. Also provided are teaching plans that integrate research-supported practices related to important mathematics concepts including digital video of teachers modeling instruction on these concepts. Digital pictures, graphics, text, and audio are integrated to support the learning experience of teachers.

The *MathVIDS* website includes a PLC link that is designed to assist teachers, grade level teams, schools, and school districts in structuring long-term PD that supports the implementation of effective mathematics instruction for students with disabilities.

**Transition to Teaching (Induction)**

The transition to teaching is complex and challenging for all new teachers, regardless of their content background. Florida hires about 2,900 new M/S teachers every year (see Table 2) (FLDOE February 2007).

Table 2. Fall 2006 Hires of M/S Teachers

Subject Field	Estimated Number of:		New Hires as a Percentage of Teachers
	New Hires	Teachers	
Mathematics	1,508	11,331	13.3
Science	1,366	9,195	14.9

The vacancies are filled from three sources: new graduates from college/university education programs, transfer of experienced teachers from other states, and alternative entrant teachers seeking regular status through various programs (e.g., district level alternative certification programs or university coursework). Only 139 mathematics and 93 science new hires are new graduates from Florida’s postsecondary institutions (see Table 3). The balance of the need is filled by transfers from other states, **and the largest majority by teachers with little or no previous teaching experience seeking or holding temporary certification (alternative entrants).**

Table 3. Number of Florida Graduates in 2006

Subject Field	SUS	Private	Community College	All	% of Need
Mathematics	102	13	24	139	9.2%
Science	71	11	11	93	6.9%

Induction needs of the three groups of new teachers differ somewhat (Luft, 2007, Luft et al., 2003). All groups need to become familiar with Florida standards and the strategies they reflect (and many will need assistance with implementing those strategies in the classroom, including issues of laboratory safety for science teachers); and all will need to become familiar with school

and district policies and cultures. New college graduates also need development of a support structure.

The PROMiSE Induction program will be based on the successful collaborative program between the USF Coalition for Science Literacy (CSL) and the Hillsborough County Public Schools (HCPS) that focuses specifically on alternative entrants. The program has four objectives: (1) familiarization with standards and standards-based instruction; (2) strengthening knowledge of M/S content needed in schools, (3) student-centered methods of teaching inquiry and promoting active learning, and (4) classroom management and **safety in a laboratory setting**. An initial 5-day institute that will precede the 2008-2009 school year will be followed by a sequence of six half-day workshops during the academic year [Year 2 of the project], and augmented by web-based Blackboard and asynchronous communication with university faculty to create PLCs for new teachers. Teachers will be exposed to the wealth of high quality and free web-based instructional resources and materials (e.g., curriculum planning tool, lesson plans) and experiments will be emphasized throughout. The content of the 5-day training will address the M/S standards, how students learn, classroom management, and developing effective lessons. Appendix A includes a general template for these workshops that will be modified in collaboration with districts to meet regional needs and priorities.

**Mentors.** Each new teacher will be assigned a trained M/S educator (retired, master teacher, or teacher on leave). Mentor activity will be divided fairly between improving instruction, curriculum issues and lesson planning, general organization and classroom procedures, and other general support. Goal setting will focus on management and organization early in the semester, and on instructional-based goals later in the semester. In addition to mentoring, follow-up and support during the first year will also include regularly scheduled group sessions that reinforce teachers and communities and address special concerns. These will be built around specific topics, such as stimulating student thinking by using questions, lesson planning, more classroom management issues, laboratory safety (science), concept mapping, teaching evolution and other controversial subjects, and identifying and using informal resources such as museums.

**Need 3:** PD is fragmented and variable in quality -- schools and school districts need a cadre of individuals to provide ongoing support to teachers and PLCs so that they are able to effectively implement the new M/S standards.

**Goal 3:** Build the capacity of schools and districts to support the implementation of the M/S standards through sustained PD of a core cadre of individuals who can support and sustain the implementation of the new M/S standards in their local context. (This goal builds on and extends Goal 2.) (Priorities 1, 2, 3, 4, & 7)

Objectives	Activities
1. Develop a cadre of leaders (including both teachers and administrators) capable of providing high-quality PD and supporting teachers in the implementation of the standards. 2. Enhance leaders' knowledge and skills to provide local leadership in support of M/S instruction. 3. Enhance opportunities for M/S teachers to engage in collegial activities (induction programs, PLCs, university certificate, etc.) to support improved classroom instruction.	1. Design or select research-based PD modules to enhance leader content and pedagogical knowledge. 2. Design and provide PD to support leadership of PLCs. 3. Provide infrastructure to support face-to-face and online PLCs for teachers and instructional leaders.

**Teachers of M/S need content-based PD that focuses on the use of Florida’s new mathematics and forthcoming science standards.** In order for schools to make real gains in improving the M/S learning and student achievement, “significant professional development will be crucial” (Ball & Cohen, 1999, p. 3). Efforts must go beyond the individual and often superficial workshop and attend to the long-term “serious and sustained learning of curriculum, students, and teaching” (p. 4). Little and McLaughlin (1993) echoed these calls and recommended PD programs that (1) are collaborative, frequent and ongoing; (2) include training, practice, and feedback; (3) are school-based and supportive of teacher inquiry; (4) incorporate constructivist approaches; and (5) recognize teachers as professionals. Such long-term programs of intense, research-based PD, reflection, and inquiry within M/S hold promise in their potential to affect long-term changes in instructional practice and ultimately to enhance student test scores and thinking abilities (Bianchini & Cavazos, 2007).

Teachers’ content knowledge and pedagogical skills are both important to instructional effectiveness. The selection of tasks and how teachers guide student thinking is dependent on their knowledge of content, pedagogy, and students (Bransford, Brown, and Cocking, 1999). Also, teachers’ ideas and beliefs about M/S teaching and learning directly influence how they teach (Good & Brophy, 1990; NCTM, 2000; NRC, 2000). Teaching goals are often reflective of what teachers think is important and how they think students learn most effectively. However, students’ thinking/understanding should be central to the design and implementation of instruction (Simon 1995). One promising approach is to involve teachers in examining teaching for understanding and to analyze their own roles and that of their students in reform-minded teaching practice (NRC, 1996).

Recent empirical studies suggest that well-developed PLCs have a positive impact on both teaching practice and student achievement (e.g., Bianchini & Cavazos, 2007; Bolan et al., 2005; Supovitz, 2002). PLCs assume that teacher knowledge is situated in practice and that active engagement in a reflective PLC will increase teachers’ professional knowledge and enhance student learning (Vescio, Ross and Adams, in press). Thus, PROMiSE seeks to affect change in teaching, learning, and ultimately student achievement by developing a PD program to train *teacher leaders* (e.g., M/S coaches, resources teachers, subject area leaders) in instructional strategies based in the theory and research discussed above. With enhanced skills and knowledge, these individuals will be prepared to support PLCs and facilitate the PD of other teachers at the school and district levels.

**Need 4: School administrators are not currently trained to provide effective feedback or support of high quality M/S teaching.**

**Goal 4:** Enhance the ability of administrators (e.g., school and district) to provide supporting context for teachers to implement high-quality, standards-based M/S instruction. (Priority 1, 2)

Objectives	Activities
1. Enhance administrator knowledge and skills to provide local leadership in support of M/S instruction	1. Provide M/S leadership training to 300 elementary, middle and high school principals in Florida (6 cohorts, 50 principals each). 2. Engage Administrators in PD for teachers of M/S.

The PD systems envisioned by PROMiSE requires highly effective principals who ensure that M/S teachers operate in an environment that values the application of their new knowledge; these PD systems will provide job-embedded, inquiry-based opportunities for teachers to receive feedback, reflect on and extend new knowledge, skills and practices. Instructional leaders in Florida’s schools must build PLCs that meet regularly to examine student work, monitor students’ progress, and use student performance data to guide instructional decisions and identify needs for continued professional learning (Murphy & Lick, 2005). They must spend large amounts of time in classrooms observing teaching and learning in light of the new standards, providing teachers with feedback that will encourage continued growth and development. These school leaders must monitor students’ progress and allocate resources based on the learning needs of their students, particularly those whose instructional needs have not been met in the past (Hallinger & Heck, 1996; Jones, 2000; Jones & Jackson, 2007a, 2007b; Waters, Marzano, & McNulty, 2003).

Current principals, however, are not uniformly prepared to build supportive cultures that clearly tie adult learning to student learning. In fact, the more traditional, university-based preparation programs for school leaders have not proven to be effective at developing principals who impact student learning (Fry, O’Neill, & Bottoms, 2006; Hess & Kelly, 2005; Levine, 2005). Principals themselves indicate that their graduate preparation programs did not prepare them for the challenges they face in today’s schools (Tucker & Codding, 2002).

Two years ago, Florida adopted a new set of standards for school leaders based on newly-revised national standards (Council for Chief State School Officers, 1996) that recognizes they must possess the instructional, operational and school leadership to lead schools as described above (SBE Rule 6-B-5.00012, Approved April 19, 2005). The Florida Department of Education, in partnership with Florida Association of School Administrators (FASA) and Laura Hassler Lang, developed the Middle School Principal Leadership Academy, a year-long PD program designed to provide middle school principals opportunities to participate in long-term, planned and job-embedded PD built around the new leadership standards and focused on student achievement, data-driven decision making, reflective practice, and action research. Peer study groups provide opportunities for principals to work and problem solve with other middle school principals as well as professional partners. PROMiSE proposes to replicate this successful program, expanding it to K-12 and focusing on the new M/S standards and their implementation in schools.

**Need 5:** There are not enough online resources to support understanding and implementation of the standards for all stakeholders statewide.

**Goal 5:** Develop online resources that teachers and other stakeholders can use to understand and support the implementation of the standards. (Priorities 1, 2, 6 & 7)

<b>Objectives</b>	<b>Activities</b>
1. Develop and disseminate online resources that stakeholders can use to learn more about the standards and their implications for Florida students.	1. Develop a website for PROMiSE that identifies the project goals, objectives, activities, and information to support the implementation of the new M/S standards. 2. Develop and launch a <b>mathematics curriculum planning tool (CPT)</b> to support teacher integration of revised M/S standards into instruction.

With the introduction of the new M/S standards, it is important that teachers and other stakeholders have access to information that will help them understand the nature and content of the standards as well as their implications for curriculum, instruction, and assessment. These standards represent a significant shift in terms of the nature of the subject matter (i.e., the focus on fewer topics with more depth), the organizational structure of the content (i.e., some topics previously taught in one grade level has been moved to another), and implied instructional approaches to support their implementation. But because current curriculum materials do not address fully the nature and content of the standards it is difficult for teachers to recognize and enact such practices (Yore et al., 2007). Teachers and other stakeholders will need access to additional information in order to support student learning.

Working with the Florida Center for Research (FCR-STEM), PROMiSE will build on and extend web-based resources to serve and **reach a large number of teachers and others in the state** who have a stake in implementing the standards. Web-based resources developed as part of PROMiSE will be continuously updated to reflect current, accurate, and peer-reviewed information. The goal is to provide resources to enhance understanding about the content of the standards, support decision-making related to the standards, and provide technical assistance to support the implementation of the standards.

PROMiSE will create a CPT to be added to the Web-based performance support system currently being created by FCR-STEM for the Florida Office of M/S to support statewide implementation of the revised standards by all K-12 teachers of M/S. The purpose of the CPT will be to (1) increase access of teachers and instructional leaders to high quality information and resources aligned with the new standards, (2) support the delivery of teacher PD, and (3) support teacher application of new content and pedagogical knowledge in the classroom.

Under its first year grant with FLDOE, FCR-STEM began development of the performance support system with design of the following two components, scheduled to be launched before January 2008.

1. **Standards and Benchmarks:** A searchable database of all of the mathematics standards and benchmarks across the grade levels (including Access Points for ESE students). Each benchmark has been rated by content experts (teachers, mathematics supervisors, mathematics education university faculty) on level of cognitive complexity according to Norman Webb's Depth of Knowledge. The revised science standards will be added after their adoption.
2. **Course descriptions:** Revised mathematics course descriptions aligned with the revised standards and new mathematics course descriptions for grades K-8 based on the content to be taught at each of those grade levels. Revised science course descriptions will be added after adoption of the revised standards. To be added during the 2007-2008 school year are 1) a course builder tool for districts and 2) an electronic course approval system, and online PD on the use of the course descriptions.

The CPT will be designed for all teachers of M/S teachers statewide. Mathematics content will be added in Year 1 of PROMiSE, followed by Science content in Year 2, with expansion of content in both areas through Year 3. The CPT will have the following elements:

**Content:**

- Explanations of (a) the M/S concepts in the benchmarks and (b) levels of cognitive complexity and their implications for instruction
- Research findings on how students think about and learn that content, including information about developmental progression

- References to state-adopted textbooks and to supplemental materials that would assist teachers in preparing lesson plans
- Resources (print, audio, video) linked to big/supporting ideas and benchmarks. These may include model lessons, teaching activities or teaching sequences; videos demonstrating instruction to the appropriate level of cognitive complexity; simulations, games and other technologies that can be used to teach concepts at different levels of cognitive complexity.
- Assessment/sample questions for monitoring student understanding of the content and skills or benchmarks at the appropriate level of complexity
- Notification of events (e.g., PD, Webinars) that are designed to help teachers and instructional leaders implement the revised standards

Performance specifications will be developed collaboratively by the Florida PROMiSE partners, Sciberus (the development subcontractor) and Office of M/S. To help ensure that all of the course content is addressed, performance specifications will address how the tool will help teachers (1) prepare curriculum or course maps that organize instruction on Big Ideas and benchmarks across the school year, (2) develop plans for units of instruction focusing on clusters of Big Ideas and benchmarks, and finally (3) develop lesson plans covering several days of instruction on specific benchmarks.

**Lesson plan tool:** The purpose of this tool will be to facilitate the preparation of quality lesson plans aligned with the revised standards. Teachers will have access to a template with fields that prompt them to address content at the appropriate level of complexity using inquiry and other pedagogical approaches taught during PD. The Lesson Plan tool also will be designed to encourage teachers to use resources available through the curriculum tool.

**Content search and review:** Content screened by a core staff of content coordinators and graduate students will be reviewed by content review panels according to a defined set of criteria (e.g., level of research evidence, content accuracy). A total of three review panels are anticipated for mathematics and three for science (elementary, middle and high school). Members recruited by the Florida PROMiSE partners will include M/S experts from College of Education (COE) and College of Arts & Sciences (CAS), teachers, and FLDOE representatives. Review panelists will review and rate content online and meet quarterly to discuss content on which there was no consensus.

**Marketing and teacher engagement:** Launch of the CPT will be announced via emails, Websites, newsletters and professional meeting presentations, with assistance from FLDOE, FCR-STEM and professional organizations (e.g., FASA, FAMS, FCTM). The tool will be based on a platform (e.g., Flash) that is compatible with most computers and be interactive, simple in design and easy to use (simple screens with links to resources as needed depending on content viewed). Envisioned is the ability of teachers to receive automatic email alerts when new or updated resources are added, rate and comment on resources posted, and nominate for review materials or resources which they have found to be particularly helpful in their instruction. An interactive online tutorial, online Help feature, and a toll-free number “help desk” designated hours will be provided.

**Need 6:** University teacher education programs do not currently align with the content in the new M/S standards or the instructional approaches necessary for teaching those standards.

**Goal 6:** Align university M/S teacher education courses with the content and pedagogy to be used in PROMiSE teacher training. (Priority 1, 3, 4 & 5)

Objectives	Activities
<ol style="list-style-type: none"> <li>1. Increase M/S content and teacher education faculty understanding of the new M/S standards and their implications.</li> <li>2. Align a set of key courses at each partner IHE with PROMiSE teacher training to support the implementation of the new M/S standards (e.g., incorporation of available curriculum resources to support pre- and inservice teacher planning of M/S instruction).</li> </ol>	<ol style="list-style-type: none"> <li>1. Engage university M/S content and teacher education faculty in the development and implementation of PROMiSE PD program.</li> <li>2. Make a set of revised M/S teacher education courses available as part of university teacher education programs , including certificates or Master’s programs, with a focus on M/S that incorporate information about M/S standards and their implication for teaching and learning.</li> </ol>

Coursework for teachers at Florida’s universities should align with and model the research-based PD needed for teachers of M/S. There is a substantial gap between this desired methodology and the common current practice, which all too often teaches M/S as textbook disciplines that emphasize transmittal of facts, and measures students’ performance by their ability to recall such facts. Teachers will utilize the strategies modeled for them as part of university coursework. As a contributor to teacher, and subsequently, student learning, university faculty must be knowledgeable about the new standards, incorporate information about those standards as part of methods courses, and model content instruction and pedagogy consistent with what is expected of M/S teachers and instructional leaders.

COE and CAS faculty have collaborated effectively for well over a decade on the development of education degree programs. For example, USF M/S faculty worked with Hillsborough County from 1998 to 2000 to develop a training program and materials for an integrated M/S approach for elementary teachers (SAMI – Science and Mathematics Integration). USF CAS and COE faculty have partnered successfully in past M/S Partnerships grants as well as federal M/S grants (e.g., USDOE & NSF). Recently, seven mathematicians from USF participated in an MSP grant, Project ACE (*Achievement through Content Expertise*), for which Dr. Kersaint was principal investigator, to enhance teacher content knowledge using the NCTM (2006) *Curriculum Focal Points* as the basis of content knowledge development for teachers who teach grades K-8 mathematics and algebra. An outflow of that collaboration is that the mathematics faculty has committed to link advanced mathematics courses to the content secondary mathematics teachers will be required to teach. This is an initial step in the examination of the secondary mathematics program to ensure that it addresses the needs of teachers.

Florida PROMiSE will build on these initial efforts in working to align teacher education and teacher training by:

1. Incorporating the research-based knowledge of teacher education faculty to support the work of the project.

2. Engaging COE and CAS faculty in all aspects of the project, including the design and development of PD for trainers, teachers, and principals, review of content for the CPT, and design of an intensive Tier 3 PD for teacher leaders throughout the state in consultation with partner school districts.
3. Sponsoring annual statewide meetings for content and teacher education faculty (e.g., FAMTE- Florida Association of Mathematics Teacher Educators, Gladis Kersaint is past president) to address issues related to implementing standards as part of teacher education programs. Topics addressed during these meetings will include: M/S standards, implication for needed changes in higher education, concerns related to implementing the standards as part of coursework, such as revising content of methods courses (e.g., multiplication and division of fractions is no longer addressed at the elementary level) and helping prospective teachers understand the change in focus from “breadth” to “depth” of understanding.
4. Distributing and sharing information available through this project.

**Revised University Courses.** PROMiSE partner IHEs will revise M/S teacher preparation courses so that they are more closely tied to the new M/S standards in both content and pedagogy. Teachers will be able to enhance their knowledge by taking these courses as part of teacher preparation programs (e.g., certificate or Master’s programs). Funding for these courses will be supported through various means (e.g., district incentives, tuition reimbursement, loan forgiveness, or the federal TEACH grants that are available for up to \$8000 for graduate study in M/S). These courses will be available to those who are interested in initial certification (for alternative entrants) or recognition as M/S specialist (for experienced teachers). Available courses designed to strengthen teachers’ content and/or pedagogical content knowledge will include, but not be limited to:

- Reading and Communicating in M/S [**integrates aspects of Just Read, Florida!**]
- Teaching and Learning M/S content
- M/S Curriculum
- Current Trends in M/S education
- M/S Content Electives (e.g., Algebra for middle school math teachers)

### 3. Project Design and Implementation

Florida PROMiSE will use a 3-tier model of PD over the three-year project period.

- Tier 1: Building Understanding of the M/S Standards
- Tier 2: Building Capacity to Implement and Support the Standards
- Tier 3: Building Capacity for Continued Renewal

Table 4: Tier Implementation through Project Duration.

	Year 1	Year 2	Year 3
Tier 1	—————▶		
Tier 2	—————▶		
Tier 3	—————▶		

Each tier will reach different numbers of stakeholders, with the majority of teachers developing understanding of the standards through Tier 1 activity. PROMiSE will encourage participation of school cohorts consisting of a principal and teachers of M/S in Tier 1 and Tier 2 PD activities to facilitate the development of PLCs at the school level. Tier 2 will offer more intensive PD leading to a cadre of instructional leaders (i.e., teachers and administrators) in Florida who are able to

support the implementation of standards and serve as effective members of inquiry-oriented PLCs in their schools. Individuals who participate in Tier 2 will receive in-depth PD that will include intensive examination of the standards, enhancement of content and pedagogical content knowledge, and skills to facilitate and support teacher learning. The final level, Tier 3, will be planned during this project. In collaboration with school district M/S supervisors and PD directors, a plan will be developed to create job-embedded graduate degree and certificate programs aimed at a small number of educators in the state who will become experts in M/S education reform. This MSP grant will not fund the program; rather PROMiSE will help design the program and assist districts in locating funding to support teacher enrollment beginning in Year 3.

In addition to developing materials to address the Florida Standards specifically, PROMiSE will utilize existing high quality PD materials such as Developing Mathematical Ideas and Curriculum Topic Study, create resources to help individual teachers interpret the standards and understand the content behind them, and develop online resources to meet the needs of the Florida context. Mathematics will be the initial focus, with efforts expanding to include science as soon as the new science standards are approved.

Each Tier will focus on both disciplinary content and pedagogical knowledge, and will focus on creating a community of practice. Each Tier includes four components:

- **Building a Rationale:** Early experiences of the PD program will provide teachers and other stakeholders with an overview and conceptual framework of the new standards and their implications for instruction. Drawing from state documents, we will stimulate motivation for teaching the new standards by examining international comparisons, notions of teaching for understanding within the new standards framework, and curricular implications of the standards movement from breadth to depth.
- **Subject Matter Knowledge:** Each of the teacher PD modules will focus on fundamental subject matter content for the particular grade band from an advanced standpoint based on an examination of the Florida and national M/S standards (e.g., NCTM 2006; NAS, 1995). Content knowledge related to the *Big Ideas* is essential to teachers' deep conceptual understanding of the content they are expected to teach.
- **Subject-Specific Pedagogy:** The new M/S standards provide a rich context for deep exploration of subject matter resulting in conceptual understanding that has not previously been possible given the large number of standards teachers were asked to address. To help teachers view their role in the classroom differently, we will model instructional practices that actively engage teachers in learning content at an advanced level. We will then unpack the pedagogy used to teach the content and the related theoretical perspectives and research on how students think and learn particular content. We also will engage teachers in thinking differently about how students may provide evidence of their understanding, how to diagnose and monitor student understanding, how to use Access Points, and how technology can support deeper student learning.
- **Tools for Promoting Ongoing Subject-Specific PLCs:** The fourth content component of each phase of the PD program is the use of analytic curriculum tools to support teachers in unpacking the standards for instruction. These tools will support and sustain autonomous ongoing examination and learning related to the new standards. In addition to the CPT to be developed by PROMiSE, we will examine for possible inclusion the National School Reform Faculty protocols, Curriculum Topic Study (Keely 2005), and the Innovation Configuration Map (Richardson, 2007).

## **Tier 1: Building Understanding of the M/S Standards**

The purpose of Tier 1 is to disseminate the new SSS, **reach the largest number of stakeholders** (e.g., teachers, school and district administrators, & parents) in Florida, support constituents in **unpacking the standards for instructional purposes**, and motivate participants to engage in other project activities (e.g., Tier 2). Tier 1 delivery will utilize and extend existing presentations available from the Florida Office of M/S and FCR-STEM to help stakeholders understand the rationale for the new standards, deepen their understanding of the conceptual foundation of the new standards (e.g., “Big Ideas” & “depth of knowledge”), develop examples of evidence-based teaching practices needed to teach for understanding, and learn to use analytic tools that will support and sustain ongoing examination and learning related to the new standards.

**PD for Educators.** Empirical evidence from nine studies related to PD meeting standards for the What Works Clearinghouse indicated that 14 hours of PD was the minimum needed to positively affect teaching and learning. All but one of the studies described an initial event with follow-up days and activities (Yoon, Duncan, Lee, Scarloss, & Sharpley, 2007). Accordingly, Tier 1 will provide 18 hours of PD in three 6-hour sessions to teams of teachers and administrators. PD packages will be created and customized to specific audiences and will focus on M/S “big ideas” within grade bands K-2, 3-5, 6-8, and the secondary topics of algebra, geometry, advanced mathematics, biology, chemistry, physics, or earth/space science, and integrated science.

**Session 1 – Building a rationale for new Sunshine State Standards (6 hours)**. Session 1 will provide participants with a conceptual organization of the M/S standards including the conceptual foundations of teaching for understanding, implications for instruction (i.e., teaching deeply versus broadly), and examples of teaching for understanding (e.g., video tapes, activities, project-developed online tools that explore best practices aligned with the new M/S standards).

**Session 2 – Building a conception of instruction based on the new SSS (6 hours)**. Session 2 activities will focus on “big ideas” (e.g., for K-2, developing understanding of addition and subtraction strategies or properties of matter; for grades 6-8, developing proportional reasoning or energy transfer and transformation; and for Algebra, developing the concept of rate of change). Educators will be engaged as adult learners of a subset of big ideas, specifically including foundational concepts within a grade band that are included in the revised standards and map onto existing areas of student FCAT weakness as identified in FLDOE’s most recent edition of *Lessons Learned*. Teachers will be explicitly guided in examining pedagogy that was used to teach the M/S big ideas (e.g., teaching through inquiry or problem solving).

**Session 3 – Constructing examples of instruction and using analytical curriculum tools (6 hours)**. In session 3, participants will continue their study of big ideas within each domain; engage in using an analytical tool (e.g., curriculum planning tool, Curriculum Topic Study, or Innovation Configuration Mapping) to “unpack” one of the Big Ideas; develop, review, and critique standards-based lessons; and explore the web-based performance support system currently being created by FCR-STEM.

**The number of teachers receiving Tier 1 PD will be maximized by creating six delivery regions in the state (See Appendix B)** roughly aligning with the Florida PROMiSE universities and school partners: northwest, northeast, west central coast, east central coast, southwest, and southeast. Consistency in presenting each of the three sessions across the state will be achieved by: (1) creating common training materials, (2) creating web-based resources, (3) training PD providers; and (4) monitoring implementation as part of the project evaluation.

**Creating Common PD Modules.** PD development teams that correspond to grade bands K-2, 3-5, 6-8, and each of a number of topics at the secondary level (e.g., algebra, biology) will be

formed. Printed materials provided to each teacher will include a set of standards at the target grade level or secondary topic level, and a limited number of carefully selected teaching resources illustrating how to align instructional practices with the new standards. Electronic versions of these same materials plus links to additional approved resources will reside on the CPT.

Module writing teams from PROMiSE partners consisting of a combination of district content supervisors, teacher leaders, COE, and CAS university subject-matter experts will be convened. Trainers with expertise in use of high quality PD materials will prepare these teams in both the content of the PD modules as well as approaches that are consistent with standards of the National Staff Development Council and the Florida Professional Development Evaluation Protocol.

**Creating Online Modules.** Online modules that mirror the three sessions will be developed primarily for educators who miss a session or for schools that cannot support face-to-face sessions. To the extent possible, online modules will be enhanced with a 90-minute, once-a-week synchronous Q&A session with an M/S e-mentor (trained PD provider) from May through September 2008. We will seek Nationally Board Certified M/S teachers to serve as e-Mentors, who will in turn maintain an FAQ webpage based on the Q&A sessions.

**Carefully Selecting and Preparing PD Providers.** Tier 1 uses a “train-the-trainers” model to create a cadre of well-prepared, regionally-based PD providers who can effectively reach a large number of Florida educators. PD provider teams from PROMiSE partners consisting of a combination of district content supervisors and teacher leaders, and university COE and CAS subject-matter experts will be recruited. Project PIs and other trainers with expertise in use of high quality PD materials will prepare these teams in both the content of the PD modules and appropriate PD approaches.

In this proposed state-wide PD initiative, we will work with PD providers to create inquiry-oriented subject-specific PLCs that (1) value the new M/S standards, (2) engage teachers as learners of both subject matter and pedagogy, (3) focus on evidence of student learning, and (4) promote a reflective approach that focuses on the development of teacher knowledge and pedagogy to effectively support student learning of the new standards.

A trainer’s guide with associated background information will be developed for each grade band/subject area workshop. Included in the guide will be a copy of a standardized presentation, set of standards at the target elementary grade level or secondary topic level, a limited number of carefully selected resources, and a summary of research on effective PD. In addition, online modules targeted to PD providers may be created to complement the face-to-face training. The online elements can be used as resources for PD providers and as a way to prepare new providers who join teams after the initial provider preparation

**School Leader PD.** Tier 1 PD for school principals will be based on the academy model discussed earlier, involving face-to-face leadership training and mentoring over a one-year period. A two-day workshop in Spring 2008 will provide principals with an introduction to PLCs and training in areas of particular need related to the leadership standards within the context of M/S instruction. In small groups, principals will learn and discuss how to develop school-wide action research plans for creating and supporting M/S PLCs which can be incorporated into the School Improvement Plans at their respective schools. During a subsequent workshop in Summer 2008, principals will present their PLC plans and receive feedback and additional training related to the leadership standards, again within the context of M/S instruction. Throughout the remainder of the school year (2008-09), learning partners (retired principals) already trained and hired by the FLDOE William Cecil Golden PD program for school leaders will mentor principals in each of the

regional cohorts. An additional one-day meeting will be scheduled during the school year for principals to discuss their progress and any roadblocks encountered (cultural issues, communication problems, finding time to work with teachers, etc.).

Participating principals will be nominated by district superintendents. Before training begins, principals will complete a survey rating themselves on Florida leadership standards and ask their supervisors to rate them independently. The survey will reflect key concerns related to implementation of the revised M/S standards (e.g., their familiarity with the new standards, their understanding of their implications for instruction). Training will be tailored to the needs identified in this process, which we anticipate will include use of student performance data to drive instruction; using research-based practices in the classroom; supporting teachers responsible for M/S instruction; communicating and engaging a diverse community; and understanding socioeconomic, cultural, and gender differences that can influence student learning and engagement in M/S.

## **Tier 2: Building Capacity to Implement and Support the Standards**

Tier 2 will target to PD to current and emerging M/S instructional leaders (both teachers and administrators) who will support teachers of M/S with a deeper understanding of content, standards, and how to promote student learning. Areas addressed in Tier 2 PD will parallel Tier 1 (see content description above) with more in-depth focus on each of the content areas.

The Tier 2 Teacher Leadership Institute goes beyond Tier 1 by providing more intensive opportunities for school-based teams of instructional leaders, who will support the implementation of the new standards. The institute for teachers will work in tandem with a leadership development initiative for principals at the same schools (described below). Compared to Tier 1, Tier 2 is expected to have more substantive impact not only on teacher knowledge of content and pedagogy but also teacher practice in the classroom and ultimately student performance.

Groups of instructional leaders will engage in intensive PD to further support their understanding of subject matter pedagogy and leadership strategies to support the implementation of the Florida M/S standards in the local context. These individuals' knowledge-base will be expanded through engagement in a variety of research-based PD offerings such as the Developing Mathematics Ideas (<http://www2.edc.org/CDT/dmi/dmicur.html>) for teachers of mathematics or Lenses on Learning ([http://www2.edc.org/CDT/cdt/cdt\\_lo11.html](http://www2.edc.org/CDT/cdt/cdt_lo11.html)) for school leaders. Other research-based sources to support M/S PD can be obtained from TE-MAT (Teacher Educator Materials Project, <http://www.te-mat.org/>)— a database of resources and tools to help K-12 PD providers design, implement, and evaluate PD programs. Participants in this level of PD will become **resources to facilitate long term PD and PLCs in their local context and throughout the state.**

Institute participants will work in communities of practice to inquire into the four elements present in all Project PROMiSE PD. Further, these PLCs will explore the goals of PD unique to M/S teachers, reflect on structures and activities that support those goals, and learn about tools to forward M/S education reform agenda in Florida schools. Participants will deepen their understanding of particular PD approaches, clarifying the goals of each approach, and considering implementation issues within their own school contexts so they can guide teachers in deepening their understanding of important M/S ideas, and build a bridge between state standards and improved teacher practice that promotes deep student learning.

Tier 2 PD experience is composed of an approximately 36-hour summer institute, coupled with online modules. The institute and online modules will focus on topics and concepts that are most

difficult for students to learn (as identified by FLDOE's most recent *Lessons Learned* analysis of M/S FCAT data by strand) and most difficult for teachers to teach (as identified in a survey of M/S supervisors and research).

### **Curriculum Planning Tool**

The CPT will be integrated into both Tier 1 and Tier 2 PD. For example, Tier 1 train-the-trainer workshops will introduce the CPT as a tool districts can use to align instruction with the new standards. Tier 2 PD will integrate the use of the tool into online learning activities. Materials and resources developed for PD will be added to the CPT for use by teachers statewide. Also, PD providers will be involved in identifying and reviewing the content of the CPT.

### **Tier 3: Building Capacity for Continued Renewal.**

The purpose of Tier 3 activities is to lay the groundwork for more sophisticated PD for M/S teacher leaders that can occur after the funding period with other funding streams. District personnel with direct responsibility for M/S education and PD will be polled to gather needs data related to development of job-embedded graduate degree programs. Interested school partners will work with PROMiSE IHE partners to develop a conceptual plan and explore possible financing options. The program, for example, might be an inquiry-based program that places a high priority on developing teachers who can ensure student success. By being job-embedded and inquiry-oriented, the value to participants will be the direct focus on improving classroom outcomes by studying new strategies to promote deeper student learning, implementing them in the classroom (with guided assistance), collecting evidence of student learning, and subsequently reflecting on and adapting practice.

### **Ongoing Activity for Years 2 and 3**

Tier 1 and Tier 2 activities will continue in Years 2 and 3 to include teachers who did not participate in those activities in Year 1. Additional activities will be expanded to reach larger numbers of stakeholders throughout Florida. Specifically, during Years 2 and 3, Florida PROMiSE will:

- Continue to provide PD to additional cohorts of teachers and administrators (Tier 1 and Tier 2).
- Design, develop, and implement PD activities that address additional key content areas of the M/S standards
- Add science to the CPT and expand/update M/S content
- Continue to align teacher education to PROMiSE PD
- Continue to provide informational presentations about the M/S standards to a variety of stakeholders
- Continue to provide PD for teacher leaders who did not participate in Year 1 activities.
- Continue induction training and mentoring for new teachers
- Update website with newly-available information.

Activities for Years 2 and 3 will be guided by lessons learned during the Year 1 implementation.

## **4. Organizational Structure and Program Implementation**

PROMiSE has identified the following operational need, goal, and objectives to guide its formative evaluation of project products, procedures, and relationships.

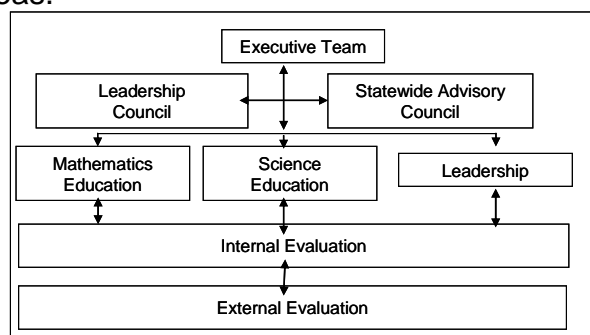
**Need 7:** No current mechanism exists for a statewide project of this magnitude that involves the three Florida Flagship Research universities, school districts and educational consortia.

**Goal 7:** To operate as a well-functioning partnership that provides well-designed and implemented PD program and support activities to support the implementation of the M/S standards.

Objectives	Activities
<ol style="list-style-type: none"> <li>Partners identify and fill appropriate roles in the design and delivery of project activities.</li> <li>Partners demonstrate effective collaboration in project management and operations.</li> <li>The partners implement PROMiSE programs consistently with design and refine based on feedback.</li> <li>The consortium establishes mechanisms and secures commitments to sustain the PROMiSE program.</li> </ol>	<ol style="list-style-type: none"> <li>Assign partner roles and responsibilities</li> <li>Establish procedures for monthly project updates.</li> <li>Utilize evaluation data to refine and inform project activities.</li> <li>Establish a long-term plan to sustain project activities.</li> </ol>

PROMiSE is designed as a collaborative infrastructure that builds on the strengths of each partner to best meet the needs of Florida’s teachers and students. Decision-making for PROMiSE will be made at two levels. First, an **Executive Team** comprised of Gladis Kersaint, ( PI, USF – mathematics education), Laura Lang (Co-PI FSU – leadership) and Tom Dana (Co-PI UF – science education) will make day-to-day decisions about project activities. The work of the Executive Team will be guided by the **Leadership Council** that includes one member from each of the partner organizations (i.e., school districts & educational consortia), and representation from the Florida Office of M/S. Additional insights will be garnered from a statewide **Advisory Council** that will include members from the broader Florida community (e.g., business representatives, etc.). The work on various components of the grant will be facilitated by leadership teams comprised of experts from each of the respective IHEs who will be responsible for **program development and coordination** for their respective areas.

- Mathematics: Gladis Kersaint, associate professor (USF) & Stephen Pape, associate professor (UF)
- Science: Tom Dana, professor (UF) & Sherry Southerland, associate professor, (FSU)
- Educational Leadership: Laura Lang, Co-PI FCR STEM and Director of Learning Systems Institute (FSU) & Bruce Jones, Associate Dean for Research and Director of the David Anchin Center (USF)



These individuals will be responsible for coordinating and facilitating all PROMiSE activities related to their areas of expertise. Responsibilities include, but are not limited to:

1. Providing overall oversight to ensure the timely attainment of project goals and objectives.
2. Providing direction related to work in their areas
3. Coordinating the working of writing teams and PD providers
4. Coordinating Tier 1 and Tier 2 PD offering with all teams
5. Consulting with others as necessary to ensure all project programs are delivered effectively.

6. Providing regular status reports of project activities. Constant and consistent communication among these leaders will be necessary and will be facilitated by direct involvement of the Executive Committee members.

PROMiSE school district and consortia partners will coordinate and provide PD to school districts within their designated region. To the extent possible, YEAR 1 PD, will focus on high-needs school districts within the region with outreach to additional districts in Years 2 and 3.

**5. Project Key Project Activities and Timeline**

- The timelines are specific, realistic, and consistent with measurable objectives and outcomes.

Table 5. Project Activities and Timeline

YEAR 1 ACTIVITIES	Dec 1, 2007 - Sept 30, 2008											
	D	J	F	M	A	M	J	J	A	S		
Monthly Leadership Council meetings												
Identify PD writing teams members, PD facilitators, teachers leaders												
Develop marketing tools to inform a variety of stakeholders about the M/S standards												
Develop Tier 1 & 2 PD modules												
Deliver Informational Presentations												
Examine and conduct needs assessments locally and regionally												
Develop criteria for participation in PD (school cohort)												
Deliver regional Train-the-Trainer workshops												
Deliver face-to-face PD sessions to teachers												
Deliver Tier 2 PD												
Induction: Identify mentors												
Induction: Develop induction PD for new teachers												
Induction: Train mentors												
Induction: Deliver PD for new teachers-5 days												
Mentor new teachers												
Administrators: Deliver stand-alone PD for administrators												
Develop website containing web-based modules (ongoing)												
Extend CPT Development (FCR-STEM)												
Plan for SUS M/S COE & CAS faculty meeting												
Meeting of SUS M/S COE & CAS faculty meeting												
Revise university courses so that they are aligned with M/S standards												
Deliver aligned university courses.												

PROMISE three-year implementation schedule is provided in Appendix C.

**6. Evaluation**

Rigorous evaluation is an essential feature of all MSP Projects. The PROMiSE team is mindful of the important role that evaluation can play, not only in assessing whether or not outcome goals

are reached, but also in providing timely, ongoing information to inform project design and facilitate midcourse corrections, as needed. The evaluation plan for PROMiSE has been developed to maximize the role played by data-based decision making, using rigorous formative and summative evaluation approaches. Internal evaluation will be conducted by Coalition of Science Literacy at USF and external evaluation will be conducted by Westat. (Appendix D).

### **Formative Evaluation**

Formative evaluation is critical to keeping the project on-track to achieving its summative goals and objectives. The PROMiSE formative evaluation will provide feedback to project leaders on the following key issues:

1. Fidelity of implementation. Is the project being implemented according to its plan? Are repeated activities conducted consistent with their design?
2. Program quality. To what extent do project activities (courses, workshops, school-based support, etc.) demonstrate characteristics consistent with research on adult learning and effective PD? To what extent do participants exhibit intended outcomes? Do higher education faculty, teacher leaders, and other key project personnel have the necessary knowledge and skills to carry out their roles effectively?
3. Meeting local needs. Are project activities aligned with the local needs identified? Do participants see the activities as relevant, useful, and effective? Do school administrators have the knowledge and skills needed to provide effective support for teachers' classroom implementation? Do school cohorts exhibit characteristics of effective PLCs?
4. Operation of the partnership. Do project planning, implementation, decision-making, and administration indicate a collaborative partnership? How do the various partners contribute to effective and efficient operation of the project? To what extent is the project sensitive to "lessons learned," maintaining awareness of emerging issues or opportunities and making adjustments based on formative data?

Formative feedback to project leaders will be collected through a variety of triangulated methods:

- Participant feedback forms will be used to document participant perceptions of the quality and effectiveness of project activities (workshops, mentoring, etc.). Feedback instruments, developed by the internal evaluation team, will contain both "participant rating" items and open-ended prompts for narrative response; they will be completed by participants in each major project activity and as an end-of-year reflection.
- Observations of a sample of PD sessions and other project activities by internal evaluators using the "Professional Development Observation Protocol" developed by Horizon Research, Inc., will provide an external perspective on the activities.
- Focus group and individual interviews will be used to gather feedback from a subset of participants, PD providers, and PROMiSE partners regarding project activities and impact. These qualitative data will provide richer information about individuals' perceptions and experiences, adding depth and detail to the data obtained through surveys.
- Expert review of project products will be used to validate the design and content of project-produced materials, with reviewers asked to provide feedback on accuracy, appropriateness, and usability of the products.

This set of formative evaluation data will provide a rich set of triangulated information to present in periodic formative reports to the project leadership team, for their use in project planning and decision-making.

### **Summative Evaluation**

Summative evaluation provides data on whether or not a project is meeting its goals. Strong summative evaluations provide evidence of causal linkages between activities and the results that are found. High quality evaluations also provide data that explain what it is about the key components of a project that make it effective, and, conversely, the factors that may be less successful than originally anticipated. The summative evaluation plan for PROMiSE has been developed to address three key outcome areas:

- **Change in student achievement**—are Florida students increasing their proficiency in M/S?
- **Change in teachers’ ability to provide high quality M/S instruction**—are teachers attaining an awareness and understanding of the standards? Are they gaining the content and pedagogical knowledge and skills required by the revised standards? Are they implementing them in their daily classroom instruction?
- **Change in the infrastructure to support ongoing capacity building**—is PROMiSE enhancing the capacity and willingness of administrators, teachers, and IHE faculty to support high quality M/S education consistent with the revised M/S standards?

The strategies for addressing each of these areas are described below:

**1) Achievement.** The external evaluation plan uses a multifaceted approach to assessing changes in student achievement. First, the evaluation plans to use changes in M/S performance on the FCAT as the key outcome variable for examining student achievement. Analyses will focus both on overall performance across grades, and on disaggregated data by race, gender, and special population status of students. Starting with performance in the 2005-06 school year,<sup>1</sup> the evaluation will look at trends in performance before and during the operation of PROMiSE to see if desired changes are occurring in students’ acquisition of knowledge and skills. In addition to examining overall proficiency scores, the external evaluation will examine performance on a number of subscales, including Number Sense, Measurement, Geometry, Algebraic Thinking, and Data Analysis in mathematics, and Physical and Chemical, Earth and Space, Life and Environmental, and Scientific Thinking in science.

Given the revision of the M/S standards, the current FCAT is not completely aligned with the new M/S standards, and it is anticipated that the FCAT will be undergoing revision during the implementation of PROMiSE. In order to obtain a more accurate assessment of student performance in terms of the new standards, the evaluation team will discuss with the Florida Department of Education the possibility of creating a subset of items most closely aligned with the revised standards and, in addition to examining performance on the full test, examining change in performance on the set of aligned and the set of unaligned items.

Second, in Years 2 and 3, the evaluation will assess linkages between participation in PROMiSE and changes in student performance. Using the data monitoring system (described below) the evaluation will examine relationships between teacher and school-level participation in PROMiSE PD and test performance.

Third, to monitor performance on a more frequent basis, the evaluation team will examine changes in M/S performance on district benchmark tests. Working closely with the PROMiSE district partners, the external evaluation proposes to use data from existing benchmark assessments to take a more fine-grained look at changes in skills and knowledge and help identify potential candidates for more in-depth study, as discussed below.

**2) Teachers’ ability to provide high quality M/S instruction.** Changes in teachers’ ability to provide high quality M/S instruction will be examined in several ways. First, using the data

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<sup>1</sup> We suggest starting in 2005-06 to capture trend data before this MSP is initiated.

monitoring system, the evaluation team will describe patterns in participation over the three years of the project. The system, which will be developed to provide data on who participates in PD, the type and extent of professional participated in, and the demographic characteristics of participants will be used to generate data on the extent to which PROMiSE is reaching its target audiences over its three years of implementation.

Second, the evaluation team will conduct a survey of potential target audiences (in Years 1 and 3 for mathematics, and Years 2 and 3 for science) in the core partner districts to assess the extent to which teachers are aware of the revised standards and feel prepared to implement them. The survey will also query teachers about their use of various instructional practices believed to support the M/S standards. Because of the nature and distribution of these districts, the results will provide bell weather information on the progress of the state, overall.

Third, using rigorous, scientifically-based designs, the external evaluation team will conduct mini-experiments in our core partner districts designed to examine the efficacy of our PD activities. For example, using a randomized experimental design, teachers will be assigned to a treatment or control condition, and the extent to which their skills and knowledge differ will be assessed using a pre-post test design. Depending on the particular PD offering and its purpose, pre and post assessments of skills and knowledge will use existing instruments such as the “Learning Mathematics for Teaching” assessments, and the ATLAST and MOSART science assessments developed as part of the National Science Foundation’s Math Science Partnership program; if necessary, and as resources permit, the evaluation team will develop new tasks to examine skill and knowledge gains. Through this series of carefully crafted experiments, the evaluation will maximize learning about the effectiveness of the various intervention strategies in diverse contexts representative of the state as a whole, while minimizing burden on teachers, students, and administrators.

Fourth, the external evaluation will conduct a study of changes in practices over time, following a small sample of teachers in the core partner districts. Building on the data collected above, the evaluation will follow teachers who have participated in selected PD activities to see whether and to what extent the PD experience translates to high quality instruction

**3) *Change in the infrastructure to support ongoing capacity-building.*** The examination of impacts on the infrastructure will draw upon data collections already described above. First, data from the monitoring system will be used to describe the extent to which administrators are participating in PROMiSE PD and teachers are acquiring the information to permit them to become instructional leaders.

Second, the evaluation will collect survey data on the extent to which administrators are aware of the revised state standards and of the instructional practices that are expected to lead to enhanced M/S performance.

Third, the evaluation will document the engagement of critical partners—traditional PD intermediaries, IHE faculty — in PROMiSE work to provide a picture of the emergent infrastructure for support. The extent and nature of their work will be described, along with an assessment of how valuable and sustainable their efforts might be.

## **7. Support for Strategic Imperatives**

PROMiSE alignment with Florida’s State Board of Education **strategic imperatives** is illustrated in the table below.

Table 6. Program Components Where Strategic Imperatives are Addressed.

Strategic Imperative	Tiers			Project Components			
	1	2	3	CPT	Induction	Teacher Ed.	Leadership
1. Increase the Supply of Highly Effective Teachers	X	X	X	X	X	X	X
2. Set, Align & Apply Academic Curricular & Testing Standards	X	X	X	X	X	X	X
3. Improve Student Rates of Learning	X	X	X	X	X	X	X
4. Imp. Quality of Instructional Leadership							X
8. Coordinate Efforts to Improve Higher Student Learning	X	X	X	X	X	X	X

- **The project utilizes a comprehensive plan for integrating pertinent aspects of the Just Read, Florida! initiative.**

The unequivocal goal for *Just Read, Florida* is for all students in Florida to be able to read on grade level or higher throughout their school years by 2012. The Florida M/S standards directly support this goal by requiring students to construct meaning from a wide range of texts, locate, organize, and interpret written information, engage in collaborative decision-making, and perform school or real-world tasks.

Communication (speaking, reading, writing) in mathematics is far more than merely recognizing words and locating information in texts (Thompson, Kersaint, Richards, Hunsader, Rubenstein, 2008). Reading in mathematics often differs significantly from reading in other content areas in that texts include large numbers of numeric and nonnumeric symbols; tables, graphs, and charts with supporting text, and unusual page layouts. Students often have not learned strategies for dealing with such mathematical text features. Mathematics vocabulary can be confusing for students; many terms are unusual or have different meanings in mathematics than in other everyday usages. Students' opportunities for using the language of mathematics outside the classroom are limited, making development of fluency more difficult. Reading strategy instruction will be interwoven throughout Florida PROMiSE as part of its PD program.

Encountering similar challenges in science literacy, research reveals that students spend consistently less time in science instruction compared to either math or language arts. One reason may be the historical FCAT focus on students' math and reading performance. Many teachers and administrators believe that time spent on science is time taken away from math and reading (Marx & Harris, 2006). But this assumption appears to be unwarranted. For example, students who read well also tend to succeed in M/S (Pungello, Kupersmidt, Burchinal et al., 1996). Moreover, a recent study (Connor, Rice, Thomas et al., in review) examined the correspondence between science instruction and students' reading skill gains. Overall, time spent in science instruction enhanced rather than harmed students' reading skills although this depended, in some instances, on students' incoming vocabulary and background knowledge.

There is some evidence that children with learning disabilities may be less well served by guided inquiry or project-based science (Palincsar, Collins, Marano et al., 2000), and this may be the case for children living in poverty, who typically begin the school year with weaker language and literacy skills. On the other hand, these hands-on activities were associated with gains in

these same students' word reading skills. Clearly, experiments that investigate the impact of these kinds of activities on all students' achievement are needed (See also, Marx & Harris, 2006) and are currently underway through FCR-STEM. Such findings will be incorporated into the PD developed for Florida PROMiSE.

## **8. DISSEMINATION PLAN**

### **The dissemination plan**

- **Reflects a thorough grasp of the proposed project and how to have a positive impact on each of the targeted populations**
- **Will use effective (innovative, but realistic) means to reach each target audience**
- **Uses innovative methods and strategies to share services designed to reach the greatest number of teachers possible**

Multiple methods, both electronic and non-electronic, will be used to disseminate information about the project as discussed throughout this proposal. The primary methods used will be informational presentations, PD sessions, and web-based resources. The true partnership among USF, UF, FSU, and the core school districts will clearly benefit the target population in attaining the project goals, including enhancing the content and pedagogical knowledge of Florida's M/S teachers. See Appendix E for a description of possible PROMiSE products and services and the distribution through which they may be communicated.

USF will create, maintain, and regularly update a PROMiSE webpage that will be accessible directly and as part of the Office of M/S site. It will include all scheduled PD workshops and links to materials produced by the project, and project-related progress reports.

In order to inform all stakeholders about the new M/S standards, informational presentations will be developed and delivered to teachers, administrators, parents, and the community at large. A variety of print, visual, and audio media will be used to reach these stakeholders.

### **Teachers, Administrators, Parents, and Community at large**

- Face-to-face presentations will serve as guides to web-based resources, including a brief presentation and one-page handout that links parents to online resources, and presentations at statewide PTA, science and mathematics teacher, and administrator meetings.
- Web-based resources (website & CPT) to inform stakeholders about the M/S standards and the implication for Florida students.
- PD for teachers and administrators throughout Florida that informs them about the M/S standards and the implications for student learning.
- Information disseminated as part of PROMiSE partner websites.
- Volunteers used to deliver presentations at school PTA meetings.

### **Print/Visual/Audio Media**

- Develop Press packets for media outlets
- Produce short clips (1/2 and 1 minute) for Public Service Announcements, ads, and webcasts.
- Schedule appearances of project staff, teachers, administrators on local radio talk shows
- Place advertisements, posters and the like in local school settings

### **Business/Industry/Community**

- Re-design Coalition for Improving M/S (CIMS) as an industry group that supports Florida M/S initiatives and that convene regularly
- Use CIMS members and other volunteers to disseminate information about the M/S standards to the business-industry community

## **9. Evidence of Eligibility**

**IHEs:** PROMiSE partners include the three Florida Public Research – Flagship Universities – USF, FSU, and UF. Each of these IHEs meets the RFP criteria for having within the College of Arts and Sciences a M/S department and a College of Engineering. In addition, each of these institutions has extensive partnership experience between COE and CAS faculty and between university faculty and M/S teachers or M/S school or district programs.

**LEAs:** PROMiSE partners school districts represent approximately one-third of Florida’s school population. Partners include three large “high-needs” school districts (Miami-Dade (4<sup>th</sup> largest in the nation), Hillsborough (8<sup>th</sup> largest in the nation) & Duval (see Table 7)).

Table 7. Teacher and Student Demographics for Large School District Partners

Student Demographics	Duval	Hillsborough	Miami-Dade
Total Students	125,171	193, 669	353,783
White	43.6%	43.97%	9.4%
Black	42.7%	22.36%	26.87%
Hispanic	6.2%	25.90%	61.2%
Other	7.6%	7.78%	2.53%
# Lunch (FRPL)	51.34%	55.04%	66.53%
Instr. Staff (Total)	8,744	15,006	19,043

In addition, PROMiSE partners include three educational consortia that serve the needs of rural and small school districts in Florida. These consortia are identified below, noting districts that have 50% or more of their student population who are eligible for free and reduced price lunch (FRPL).

- **HEC** ([http://www.heartlanded.org/about\\_hec.htm/](http://www.heartlanded.org/about_hec.htm/)): Desoto (69.02%), Glades (67.23%), Hardee (62.93%), Hendry (64.66%), & Highlands (59.89%), Okeechobee (58.89%)
- **NEFEC** (<http://www.nefec.org/>): Baker , Bradford (65.39%), Columbia (60.85%), Dixie (70.28%), Flagler, Gilchrist (52.13), Hamilton (65.85), Lafayette (53.64%), Levy (57.33%), Nassau, Putnam (71.34%), Suwanee , Union (54.92%), FSDB, PK Yonge
- **PAEC:** (<http://www.paec.org/>): Calhoun (51.91%), FSU Schools, Franklin (68.96%), Gadsen (67.23%), Gulf, Holmes (52.57%), Jackson (53.27%), Jefferson, Liberty (74.5%), Madison (69.51%), Taylor (65.03), Wakula, Walton, & Washington (53.16%)

Collectively, PROMiSE will reach a substantial portion of Florida teachers, and subsequently their students, in high need LEAs. Teachers from other districts will be encouraged to participate in regional PD with direct outreach to other school districts occurring during Years 2 and 3.

### **9. GENERAL EDUCATION PROVISIONS ACT (GEPa) REQUIREMENT**

**Equal Access For All:** On the basis of race, color, sex, national origin, marital status, disability, age or religion, no person shall be excluded from participation in, denied the benefits of, or subjected to discrimination under any education program or activity, or in any employment conditions or practices conducted by this school district, except as provided by law.  
Statutory Authority: Florida Statute 230.22(2): 228.2001:230.23(5)

The primary goal of PROMiSE is to ensure that each student succeeds in his or her quest for a secure future. To that end, PROMiSE continues to focus on equal opportunity for all individuals regardless of race, creed, ethnicity, socio-economic status, gender, or any other discriminatory

criteria. Specifically, PROMiSE will seek to include faculty, students, parents, and community members in project activities without regards to race, creed, ethnicity, socio-economic status, gender or any other discriminatory criteria. To the extent possible, all materials will be available in multiple languages and will be designed to meet the physical and language requirements of participants in order to remove barriers to participation. Working through school district partners, English as a Second Language (ESOL) personnel at each site will provide project information verbally to parents and students whose primary language is other than English in the primary language of the household. Participants will not be discriminated against in regards to disabilities, and accessibility options.

**Equitable Services for Private School Participation.** The PROMiSE project will follow each core partner school district’s procedures regarding equitable services for private school participation. Working through school district partners, private school personnel have been consulted prior to the submission of the grant, and schools wishing to participate with the district in grant activities have informed the district of their interest. After the grant is received, private schools will again be contacted to determine additional interest in the project. Private school personnel will be full participants in the project, including being invited to all PD activities and follow up sessions, and receiving project materials.

## 10. Budget

### BUDGET NARRATIVE

The PROMiSE budget is built on the following basic principles:

1. **Leverage partner funds for PD:** Partner districts agreed to provide stipends and other support for their participants. This will allow PROMiSE to reach over 10,000 teachers in year one, and additional teachers accessing web-based resources. By the end of Year 3, we expect to have reached over 80% of elementary and secondary mathematics and science teachers.
2. **Focus Year 1 efforts on high-need school districts** represented by PROMiSE: Other districts will be invited to participate if they are willing to make the above commitment.
3. **Focus Year 1 efforts on the development of high-quality PD programs and support materials:** A large portion of funds used for design and development will be shifted to delivery in Years 2 and 3.
4. **Establish and staff regional centers to coordinate and deliver PD.** Each regional center will be minimally staffed with at least two people to support PROMiSE activities. Funds are allocated to regions based on the number of teachers of M/S in high-need districts in each region, with a minimum of \$190,000 per site.

Table 8 provides an overview of the budget categorized by function. The detailed budget narrative is available in Appendix F.

Table 8: Budget categories by PROMiSE Program Function for Year 1

Program Function (Lead University or Organization)	Component design	Trainer Training*	PD Delivery to partners
Awareness and Teacher PD (UF)	\$1,367,405	472,100	\$2,460,841
Induction, including laboratory training (USF)	\$172,233		
Administrators and Community (USF)	\$213,140		Incl. in design

Curriculum Planning Tool (FSU)	\$1,128,452		
Leadership Development (FSU)			\$635,000
Evaluation (Westat & CSL-USF)	\$767,324		
Central Management and oversight (USF)	\$374,825		
<b>Total Design (52.9%)</b>	<b>\$4,017,378</b>	<b>\$472,100</b>	<b>\$3,095,361</b>
<b>Total Delivery and TTT (47.2%)</b>	<b>\$3,567,461</b>		
<b>Total Direct Cost</b>	<b>\$7,584,839</b>		
<b>Indirect Cost</b>	<b>\$606,307</b>		
<b>Grand Total</b>	<b>\$8,191,146</b>		

\*Note: This amount includes additional funds that will be funneled to partners for participation in the PD design and development.

**Awareness and Professional Development of Teachers.** Year 1 will focus on the approved mathematics standards and then the science standards once they are approved in spring 2008. The Design budget includes time for individuals (faculty, consultants, & district personnel) to develop face-to-face and online versions of PD materials. The Train the Trainer (TTT) budget augments school district capacity to deliver the PD. The Delivery budget provides districts with resources to deliver the PD locally and regionally. This component is intended to reach 10% of elementary and 20% of secondary M/S teachers in year 1.

**Awareness of New teachers: Induction and Laboratory.** The Design phase adapts materials developed for Tier 1 PD and uses existing materials developed in part with previous MSP and USDOE support. This budget includes time to develop materials (faculty, staff, consultants, & school district personnel), travel, materials production (e.g., printing & electronic resources). As above, TTT augments capacity for local and regional delivery. This component is intended to reach between 50 and 60% of newly hired mathematics and science teachers.

**Awareness: Administrators and Community.** Funds are used to develop an infrastructure for coordinating and scheduling “awareness” efforts (e.g., contacting groups such as PTAs and the media). Two staff persons are dedicated to this effort with a small advertising budget to facilitate entry to the media, travel, materials, and supplies.

**Curriculum Planning Tool (CPT).** Funds used to develop the CPT will cover the cost for an instructional designer, a content coordinator, and 2 graduate students. Design and programming of the CPT will be subcontracted to Sciberus (Atlanta). Other expenses include the cost for travel for content review, printing, computers, materials and supplies (e.g., postage) for the use of the project. This component is expected to reach 100% of teachers in Florida.

**Leadership Development.** Funds are used to support time for individuals (e.g., faculty, staff, graduate students) to support the implementation of this component. It also includes cost for principal travel, meeting facilities, and supplies and materials needed to deliver the PD (e.g., Printing, copying, postage, communications & computers). This component is designed to reach 300 principals in Year 1.

**Evaluation.** Funds are used to cover the cost for both internal and external evaluation. Costs associated with the evaluation component includes data collection (e.g., surveys and PD observations), travel to project activities, supplies, and a subcontract to DAIMS (Data and Information Management Systems Inc.) to set up a system for management of data evaluation and training related to it.

**Central Management and Oversight.** Funds are used to support time for individuals (e.g., faculty and staff) to provide general oversight, deal with compliance issues, serve as liaisons to the executive and leadership committee, coordinate the project, provide necessary support services, and address access related to students with disabilities and other struggling learners.

**YEAR 2**

Table 9 illustrates an estimate of probable resource distributions in Year 2. Reflecting a 12-month project period and salary increase of 3%, PROMiSE funds will continue to be allocated for oversight and design functions in appropriate categories. For example, the Induction component for teachers entering fall 2008 will span two budget years since mentoring and school year workshops will continue throughout the fall semester. The CPT funds for year 2 will be dedicated to completing the science component and maintenance of the tool. The allocations will be adjusted as a result of formative evaluation if necessary.

Table 9. Estimate Fund Distribution for Year 2

<b>Program Function</b>	<b>Component Oversight &amp; Design</b>	<b>Trainer Training</b>	<b>Program Delivery to partners</b>
Awareness and professional development of teachers	\$325,000	\$175,000	\$4,415,000
Induction and laboratory	\$150,000		
Awareness: Administrators and Community	\$200,000		Included in design
Curriculum Planning Tool	\$450,000		
Leadership Development		\$70,000	\$500,000
Evaluation	\$820,000		
Central Management and oversight	\$480,000		
<b>Total Design</b>	<b>\$2,540,000</b>	<b>\$245,000</b>	<b>\$4,915,000</b>
<b>Total Delivery and TTT</b>	<b>\$5,045,000</b>		
<b>Total Direct Cost</b>	<b>\$7,585,000</b>		
<b>Indirect Cost</b>	<b>\$606,800</b>		
<b>Grand Total</b>	<b>\$8,191,752</b>		

**YEAR 3**

Year three will be similar to Year 2, except for a further reduction of funds to the maintenance level where possible, and complete cessation of program design components except for modifications as a result of formative evaluation.