

eMINTS-METS COMPETITIVE GRANT PROGRAM

FY09 Program Evaluation Narrative Report

The intent of the eMINTS-METS program is to improve teaching and learning in mathematics and science classrooms through high-quality professional development and the integration of learning technologies. The primary goal of all eMINTS project implementations is to provide quality professional development that helps educators integrate technology in proven, research-based instructional strategies, resulting in improved student academic achievement (including technology literacy skills). Grant recipients complete an annual project evaluation narrative (PEN) that details participants, activities, and project outcomes. Following is a summary of the reports submitted June 2009.

School Information – Grant Recipient School Populations

BUILDING TEACHERS AND STUDENTS: Enter total numbers of teachers and students in participating building(s), by grade level.

Schools [N=5]		K-2	3-5	6-8	9-12	Totals
	Schools	2	3	2	2	5
	Teachers	8	28	23	15	74
	Students	99	521	387	507	1512

Project Information – Grant Participants by eMINTS Professional Development Type

BUILDING TEACHERS AND STUDENTS: Enter total numbers of teachers and students in participating building(s), by grade level.

Notes: The Comprehensive eMINTS professional development program is provided to official eMINTS teachers who have the full suite of required hardware and software. Comp eMINTS is a two-year program is comprised of more than 250 contact hours delivered face-to-face and online by eMINTS staff members and by certified eMINTS Instructional Specialists who have successfully completed the Professional Development for Education Technology Specialists (PD4ETS) program. The eMINTS for all is a two-year program that schools can implement to supplement official eMINTS classrooms. eMINTS4All addresses a subset of the comprehensive professional development, designed for educators in classrooms above/below official eMINTS classrooms or other subject areas. The program helps teachers in the grades prior to eMINTS classes to understand the cognitive, social and technological skills students will need to be successful, and helps teachers in other subject areas or following grades to understand the cognitive, social and technological skills of their eMINTS-experienced students.

eMINTS Professional Development Program	K-2		3-5		6-8		9-12		Totals	
	T	S	T	S	T	S	T	S	T	S
Comprehensive			9	141	8	285	4	460	21	886
eMINTS for All			6	126	6	324	10	485	22	935

Project Information – Curricular Focus Areas

BUILDING TEACHERS AND STUDENTS: Enter total numbers of teachers and students in participating building(s), by grade level.

Note: Duplicate reporting of students is likely in some instances.

	PRIMARY CURRICULAR FOCUS		COMPLEMENTARY CURRICULUM FOCUS AREAS			
	Mathematics	Science	Mathematics	Science	Language Arts	Social Studies
Number Schools	3	1	1	1	2	1

Project Benefits

1. Describe **how project has changed/is changing teaching** in the building.

A – We have seen an increase in student-centered instruction in the classrooms and students being more actively involved in the learning process. We feel this is reflected in this year’s end-of-course test scores.

B – Lessons have become more integrated with technology, and there is a stronger collaboration among teachers. When asked what teachers particularly liked about participating in eMINTS, they responded “the

options for reaching all students,” “more ways to reach all learning types,” and “the chance to see students create their own learning.”

C – Teaching and learning has become more interactive. Teachers are now able to support the reading curriculum with visuals and extend learning with individual projects. Lessons are engaging and adapted effectively to address different learning styles and individual needs.

D – The lessons taught prior to the project were focused on teaching – what the teacher would do and how to present the curriculum. Now the focus is more on learning – meeting students’ individual needs and helping students learn how to learn on their own and with others.

E – The project has increased differentiated instruction as well as student-centered learning and teacher-facilitated teaching. The focus of the teacher being the sole provider of education has decreased, which is evident by students asking each other for help and cooperating in learning. Technology has been integrated into the curriculum for the purposes of increasing student independence with the text-to-speech capabilities of the Macintosh computers.

2. Describe how project has changed/is changing student learning in the building or district.

A – With the addition of wireless networking throughout the building, we are seeing students using laptops to complete assignments, write papers, and such. Students are more in control of their learning and are developing the skills needed to be life-long learners.

B – Student learning is more inquiry-based and focused on the use of technology. Students liked the faster access to specific information provided via computer as opposed to textbooks; they are attracted to information presented via SmartBoard, video clips, and websites.

C – Students are researching more and passively receiving information less. Learning has become more than just listening as teachers, and students become more involved with interactive websites. Visual learners are more engaged, and overall motivation has increased with more visual and hands-on instruction.

D – Learning has changed in that while teachers are responsible for assessing student needs and helping students to reflect on their learning, the responsibility has shifted toward students. Students know their own needs and are learning how to use the tools given to them by their teachers to address those needs.

E – The program serves students with emotional disturbance and/or Asperger’s Syndrome – a group of students that has difficulty accepting peer feedback and learning to cooperate with peers. These students are very excited about attending class in an eMINTS classroom, and their self-confidence has improved. Through the guidance of the eMINTS program, teachers have guided students in accepting feedback as well as increasing the cooperative skills of many students.

3. Describe the most successful activities or outcomes of the project.

A – Lessons developed by the teachers that incorporate the use of the SmartBoard have been the most successful activities. Many of the eMINTS-trained teachers use the boards daily for delivery of instruction.

B – The most successful activities involved use of SMART Boards, which were not available in the high school prior to this grant. Students are engaged in a variety of ways to learn using technology, such as graphing calculators on the SMART Board and a citation generator in developing a research paper. The most enthusiastic students in the project were those in the special education department where technology made their learning easier, more interesting, and more appropriate for their individual learning styles.

C – Watching our students become more self-directed and motivated to find information on their own has been encouraging for all teachers. The fourth-grade students do a unit on Famous Missourians, and the use of the individual laptops allowed for the quality of many projects to approach a new level.

D – The most successful outcome has been an increased understanding of cooperative learning and community building. Teachers thought they were using cooperative learning strategies before, but now

realize they were doing group work. Since implementing cooperative learning and learning communities, they have seen significant gains in student learning and behavior.

E – One of the most successful outcomes of the project has been the increase in positive behavior of the targeted students. Students have displayed more collaboration, cooperation and participation, not only in academics but outside the classroom as well.

Project Future

1. Describe the district's intent to continue the project.

A – The district is committed to having SmartBoards in all classrooms, and teachers are being trained in the use of this instructional tool. At this time, all core curriculum classrooms, grades 2-12, are equipped, with funding assistance from a local foundation supporting the purchase of two boards. The professional development committee is supportive of both eMINTS and SmartBoard training, and the district requires teachers to attend such training (provided via the eMINTS grant or by MOREnet).

B – The district applied for two separate grants for the 2009-10 school year. Although neither grant was received, the district still plans to continue the eMINTS professional development training for the upcoming school year. One teacher, completing Year 2 of the PD4ETS program (the train-the-trainer program) with local funds, will provide training locally for the new teachers who were added this school year. Another local ETS will provide training to the 4All teachers in 2009-10. The district will add SMART Boards to an additional grade-level of classrooms and provide the professional development training for these teachers, and will continue to expand the program as funds become available from other sources (such as stimulus money and other federal or state funds).

C – The staff and district administrators remain committed to the training and further development of this program. The district-approved 2009-10 budget provides funding for the continuance of training as outlined in Year 2 of the grant. Also, the building PTA has asked to co-sponsor the parental piece and extend awareness to more parents.

D – We are ready to “hit the ground running” this year. Teachers are looking forward to Year 2, beginning the year with their student equipment and the skills and knowledge they accumulated during Year 1. Local funds will be used for teacher stipends and eMINTS Professional Development fees, and the teachers will collaborate more with the district trainer to implement more inquiry-based lessons. There were some issues with accessibility of the laptops for the 4All teachers, so the district will be using local funds to purchase some additional small laptop charging carts for each room so that each 4All teacher will have access to 12 laptops at all times. In Year 1, the 4All teachers shared 30 laptops which were stored in one laptop charging cart in one of the 4All classrooms. They also borrowed some of the extra laptops from the Comprehensive classrooms. This will make using the laptops easier for all teachers and we believe it will increase the use of the student laptops by the 4All teachers.

E – The district is absolutely committed to maintaining, continuing, and expanding the eMINTS-METS program. Support of a PD4ETS (local trainer) demonstrates its desire to provide professional development to additional staff members in the future while offering “refresher” training to those who have completed the eMINTS training some time ago. The PD4ETS staff member will continue training the seven eMINTS-METS teachers during their second year of professional development. There is also interest at another building – where our students will go after leaving our school. School administrators and staff are enthusiastic about eMINTS training and properly equipped classrooms, and funding for these efforts will be provided through the ordinary budgeting process. The board of education and the superintendent have made technology and related professional development a priority and have targeted substantial portions of the stimulus funding to district-wide technology enhancement.

2. Describe any refinements or changes to improve the success of the project.

B – The program has been a great asset to the school district and well-received by everyone in the district. The school board and the entire administrative staff are supportive of the professional development and the opportunity to improve teaching and learning in the district. The only refinement needed in the future is in scheduling of professional development time. The district tried two methods, neither of which worked well:
1) training after school hours in the evening, with the biggest complaint being the amount of time away from

home, the long hours, and missed evening activities, and 2) training during the school day because of the conflict of teachers' schedules, with teachers complaining about the amount of time out of the classroom. In the future, training will take place with some during the school day and some training done in the evening.

C – Teachers would like to start earlier in the year. Many expressed the desire to do training earlier (even summer) so as to see the benefits sooner.

D – As mentioned before, we will be redistributing the 4All laptops so all teachers will have access to the laptops in their own classrooms. We are also increasing the collaboration and planning time between the teachers and the district trainer at their request. We feel this will increase the quantity and quality of inquiry based lessons.

E – eMINTS is ideally suited for many students with special needs. In years past, there were some questions about the appropriateness of inquiry-based learning for special needs students. Fortunately, the eMINTS program in Missouri under the leadership of Dr. Monica Beglau was never aligned with such a conventional stance. Her background in special education has helped this and other school districts recognize the positive impact on learning and achievement for students with special needs. This recognition is broadly accepted in the district, with promises to adopt eMINTS throughout the district.

3. Provide any additional comments about the project's implementation and outcomes (such as unexpected barriers and/or benefits).

B – The district feels very fortunate to have been awarded this grant, and is amazed at the many benefits already showing in the students' attitudes toward learning and the teachers' attitudes toward teaching.

Project Goals and Objectives

Grant recipients are required to report annually on objectives related to student academic performance and technology literacy and enhanced teacher instructional strategies and teacher proficiency in using technology. In some cases, district projects identified additional goals (such as higher attendance rates, fewer disciplinary referrals, or improved parent involvement).

A – SECONDARY MATHEMATICS (AND LANGUAGE ARTS, SCIENCE, SOCIAL STUDIES) IMPLEMENTATION: 1 COMPREHENSIVE AND 5 FOR ALL CLASSROOMS, GRADES 6-12

STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

1. By the end of Year 1, targeted students will score 75% or higher on a teacher-made test measuring students' geometry and spatial skills, computer skills, and their perception of how geometry is used in the real world.

Results: According to pre-post test results, there was an average 72% increase in the post-test scores for students enrolled all school year. When including all students – including those who joined the class during the school year – there was an average increase of 52%.

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

2. By the end of Year 1, teachers will develop technology-rich activities that will result in raising student performance in geometry concepts.

Results: The eMINTS-trained teachers developed classroom lessons to include SmartBoard presentations that were evaluated using a locally-developed rubric. All presentations met 90% of the rubric criteria.

ADDITIONAL OBJECTIVE: PARENT AWARENESS/INVOLVEMENT

1. By the end of Year 1, parents will show increased interest in student learning and make use of the parent portal to classrooms.

Results: We are seeing additional interest of parents, as noted by their portal participation. The portals are gaining popularity, with parents having access to information from within the classrooms (regarding student assignments and performance).

**B – SECONDARY MATHEMATICS (AND COMMUNICATION ARTS) IMPLEMENTATION:
6 COMPREHENSIVE AND 6 FOR ALL CLASSROOMS, GRADES 9-12**

STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

1. By the end of Year 1, 80% of targeted students will score at “proficient” level on a district-developed common mathematics and reading assessment based on grade level expectations (GLEs).

Results: The pre-post test scores are detailed below. While the percentages increased, the objective was not met. Teachers explain the low scores as a result of completing only the first year of training, in addition to being out of the classroom too much for training to get accurate results.

	Pre-test	Post-test	Difference
English	36%	61%	25%
Math	5%	7%	2%

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

2. By the end of Year 1, all project eMINTS/METS teachers will be familiar with the eMINTS professional development program and will use its teaching strategies on a consistent basis. Each teacher will supply one model lesson plan that successfully meets the criteria established by the eMINTS National Center.

Results: All Comprehensive teachers have completed this objective, and 4All teachers have shown lesson plans to local ETS.

ADDITIONAL OBJECTIVE: PARENT AWARENESS/INVOLVEMENT

3. By the end of Year 1, selected eMINTS students will make a presentation to the school board showing their academic progress and fluency in multimedia.

Results: The local school board has a time set aside for an “eMINTS Moment.” Students at all grade levels have made presentations to the local school board.

**C – ELEMENTARY MATHEMATICS (AND READING) IMPLEMENTATION:
6 COMPREHENSIVE AND 6 FOR ALL CLASSROOMS, GRADES 3-5**

STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

1. By the end of year 1, 25% of all students will attain a score of 80% or higher at least two times on mathematics Tungsten Learning assessments, and 40% will attain a score of 80% or higher at least two times on reading Tungsten Learning assessments.

Results: As detailed below, the objective was met for both subjects and all grade levels except for grade 4 reading. We exceeded the objective for grade 4 mathematics and grade 5 mathematics and reading.

Subject Area	Grade	Percent	Objective Status
Mathematics	3	27%	Met
	4	53%	Exceeded
	5	60%	Exceeded
Reading	3	40%	Met
	4	23%	Not Met
	5	54%	Exceeded

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

2. By the end of Year 1 of the Comprehensive eMINTS or eMINTS4All professional development programs, participating teachers will submit two model lesson plans specifically targeting underachieving populations in mathematics (or reading) that successfully meet all criteria established by the eMINTS National Center.

Results: Teachers submitted lesson plans to the eMINTS Instructional Specialist. She provided feedback to the principal indicating all teachers are on target and performing above expectations.

ADDITIONAL OBJECTIVE: PARENT/COMMUNITY INVOLVEMENT

3. By the end of the 2008-09 school year, parent and community involvement in student learning will show an increase of 40% through participation in at least two of four math/technology-based curriculum nights.

Results: Parental involvement goal was met at 50%.

D – MIDDLE SCHOOL SCIENCE (AND MATHEMATICS) IMPLEMENTATION:

4 COMPREHENSIVE AND 4 FOR ALL CLASSROOMS, GRADES 6-8

STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

1. By the end of Year 1, students in the eMINTS Comprehensive classrooms will show 35% overall growth in science knowledge and application.

Results: Students showed a 20% growth, not meeting the objective. The average post-test score was 63%, compared to the pre-test score of 43%. Our goal for Year 2 was originally 45% growth; we will adjust that to 35% growth and hope that we surpass our goal.

2. By the end of Year 1, students in the eMINTS4All classrooms will show an overall increase of 25% in math knowledge and application, using a comprehensive math assessment given in August to determine a baseline level and again in May to determine growth.

Results: Students showed an overall increase of 28% growth, indicating the objective was reached. The average post-test score was 68%, compared to the pre-test score average of 40%. Our goal for Year 2 is 35% growth.

3. By the end of Year 1, students in eMINTS and eMINTS4All classrooms will show a 10% growth in technology literacy, using a comprehensive technology assessment given in August to determine a baseline level and again in May to determine growth.

Results: Students showed an increase of 3%, indicating the objective was not reached. We were not able to deploy the student laptops until the end of January, so students only had about 3½ months of individual computer use. We expect to achieve our goal of 10% growth in Year 2 as students will have had the computers all year and our teachers will have acquired additional technology knowledge as well.

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

4. eMINTS and eMINTS4All teachers will increase one LoTi Level on the LoTi DETAILS Survey.

Results: Objective was not reached. Three of the eight teachers increased at least one level while the other five decreased one level. We discussed why this might have happened and drew the following conclusions:

- The survey was changed slightly. We think this had the least impact because even though questions may have changed, the expectations for the LoTi levels remained the same.
- The district had all staff take the LoTi pre-assessment in May 2008. This was the first time anyone in the district had been asked to take the survey, and teachers were told it wasn't an evaluative survey but would be used to determine professional development needs. Some teachers may have answered some of the questions more positively than what their everyday classroom practices actually are and, if so, the pre-assessment scores are a little inflated.
- In the eMINTS training, teachers learned so much about best practices and using technology so by the post-assessment that may have set higher expectation for themselves. While they thought they were integrating technology well before, they learned they weren't really integrating it to their best capacity. Having set higher goals for themselves, they may have answered some questions more negatively than what their everyday classroom practices really are.
- We feel that the LoTi levels from the May 2009 survey are much more accurate of where the teachers really are and we expect our Year 2 post-assessment results to increase by at least one level.

**E – ELEMENTARY MATHEMATICS (AND SCIENCE) IMPLEMENTATION:
7 COMPREHENSIVE CLASSROOMS, GRADES 4-8**

STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

1. By the end of Year 1, 50% of targeted students will score within the average range (at or above the 25th percentile) on a district-developed, curriculum-based measurement of mathematics computation fluency, normed for grade level expectations and adapted to meet students' individual education program requirements.

Results: 65% of targeted student's demonstrated pre-post test progress on the district-developed math assessment. In addition, each teacher completed pre-post assessments on students that addressed both technology and inquiry-based learning. Overall, teachers determined students increased their higher-order thinking skills by 20% and their use of technology by 60%.

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

2. By June 1, 2008, the principal and an eMINTS representative will conduct a walk-through of all eMINTS classrooms using an instrument based on the Hallmarks of an Effective eMINTS classroom.

Results: A walk-through was conducted in March 2009 by the eMINTS representative along with the school principal and central office state (associate superintendent and director of the separate schools). During the group debriefing, it was determined that each teacher was at a different stage of mastery. In a later walk-through, the principal concluded that progress made by each teacher compared to the first semester was evident. Teachers were much more comfortable with teacher-facilitated learning instead of teacher-directed teaching, students were generating KWL charts for their own use, teachers were asking questions that were attempting to get at higher levels of thinking, and all teachers were using SMART boards during instruction and students were using technology for research and inquiry-based learning.

ADDITIONAL OBJECTIVE: PARENT AWARENESS/INVOLVEMENT

3. By the end of Year 1, 75% of parents of participating students will attend 1 of 2 parent training sessions intended to heighten parental awareness about the student-centered approach to learning inherent in the eMINTS program.

Results: Six parent meetings were hosted during the school year. The major focus of these meetings was to inform parents about mental health and wellness and the relationship these factors have in a student's ability to learn. Such awareness on the part of the parents is essential before we begin to focus on the elements involved in learning and achieving in an eMINTS classroom. In 2009-10 parent meetings are scheduled that will specifically target the process and anticipated results for students participating in the eMINTS-METS grant program.