



ALLEGAN COUNTY M/S CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

We congratulate all of the schools in our service area for achieving AYP for the 2006-07 school year. However, in the recent past, a few schools (primarily middle schools) have seen lower MEAP scores for several subgroups especially for special education. This caused the Center to research diagnostic assessments and interventions for K-8 math similar to the work being done in Language Arts. The first step in this process, however, has been to conduct a curriculum mapping initiative and to correlate GLCE-aligned assessments. This will help determine where the gaps are in the curricula of local districts and on which GLCEs students are underperforming. Long term goals for this work include:

- Collectively determining where we need to improve K-8 mathematics instruction and assessments, leading to increased student achievement for ALL students.
- Reviewing available research on K-8 mathematics assessment and intervention programs and resources.
- Identifying ways to pool our resources to improve K-8 mathematics student achievement.
- Making recommendations to district administrators about K-8 assessment and intervention resources so when they need it, it is available.

During the latter part of the school year, our K-8 Math Review Committee met twice and we began Phase 1 of this initiative to create curriculum maps and correlating unit assessments for 3rd-5th grade for districts implementing the Everyday Mathematics curriculum. This curriculum was chosen because nearly 50% of the districts we serve implement it in the elementary grades. The positive outcomes for this work to this point are that half of the elementary buildings served now have curricula aligned to the state curriculum framework for 3rd-5th grade mathematics. Long-term outcomes are to have 100% of our constituent districts with an aligned mathematics curriculum for grades K-8th and for student achievement data on the math MEAP tests improve at grades 3rd-8th.

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AMA/IOSCO M/S CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

Using Data Analysis to Improve Instruction.

Although we do not have any designated underachieving schools in our region, several of our buildings have had poor scores on the science portion of the MEAP test. As a result we have used a program called Testwiz to analyze the specific MEAP results. This allowed us to focus on specific target areas that need improvement. Teachers whose classes scored poorly in certain areas were given “laser-precision” targeted professional development. For example the solar system received attention for elementary teachers in Hillman Community Schools.

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BATTLE CREEK AREA M/S CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

Limited budget and personnel challenged the BCAMSC to redesign continuing support of “high priority” schools and the scope of “intensive assistance.” The focus in 05-06 became a deliberate effort to ensure that the previous “intensive assistance” schools (Battle Creek Public Elementaries) continued to show success. The BCAMSC Outreach staff met with “high priority” schools within Battle Creek Public Schools to define the current needs for assistance by defining the training, teacher support, administrator support, and student support, specific to each building/classroom. The emphasis became more on the District as a whole. This work continued during the 06-07 year.

The Battle Creek Public Middle Schools, while showing increases in science scores, have not shared the 90% of the state level that the elementaries have held for a period of years. BCAMSC staff feels that if students leave the elementaries at a level of 90% of the state proficiency, then it should, at a minimum, continue that trend throughout middle school. While the middle schools have seen an increase as well, it is not at the same rate as the K-5 buildings receiving intensive assistance (IA). Due to the lack of staff to provide for IA in the middle schools, BCAMSC wrote and received a grant to provide IA to the middle schools for a period of 3 years. Beginning January 2007, the Center commenced the 3-year IA Battle Creek Middle School Program with baseline district data of 80% of the state science average. This grant will allow the BCAMSC to continue to provide significant assistance to high priority schools during tough financial times for the Center as well as the district. Beginning January 2007, a full-time technical assistance provider was hired and placed full time in the middle schools to provide classroom observations, model teaching and instructional strategies and support. NSTA was hired to provide a *Science Program Improvement Review (SPIR)* for each building, which was conducted in January as well. This will provide baseline data for the entire science program improvement effect, including, but not limited to achievement test scores.

Several early phase middle school outcomes were achieved even though the program began in January 2007:

- All Building Principals attended Administrator’s Workshop/and or Science Building Strategy Meeting
- All Buildings participated in an NSTA SPIR review
- Curriculum and materials inventory started/completion by June 2008
- All science teachers in buildings now required to teach and assess science curriculum
- Teacher training has begun in content, pedagogy, MCF benchmarks, assessment and writing constructed responses
- Community and school coordination of services to students

Teachers have been provided feedback from classroom observations and model teaching and instructional strategies support, which has improved the instruction in the classrooms. Additionally, BCAMSC Outreach staff has coordinated a community effort that identifies each program that impacts students in Battle Creek Middle Schools. This coordination has allowed for all support groups that impact the schools to work together to increase achievement scores instead of working in isolation. The coordination of the programs has resulted in identification of each student and how that student is or should be supported by different community and school support programs.

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BERRIEN COUNTY M/S CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

The Center continued to work with the Benton Harbor Area Schools middle schools (grades 4-8) and Benton Harbor Charter School to improve student achievement in mathematics; this effort was expanded to include Buchanan Middle School. There was a focus on professional development for mathematics teachers in content and pedagogy through intense summer institutes, school year curriculum professional development, and periodic lesson study sessions. The Center was awarded a Title II Mathematics and Science Partnership grant in collaboration with Andrews University to specifically raise student achievement through increasing the skill of middle school mathematics teachers.

The Center participated in a planning committee for the SciMaTech Academy at Benton Harbor Hull Middle School. The Academy's goal is to accelerate student achievement in science and mathematics.

The Center's Science Consultant led an "Impact Day" to promote civil engineering as a career and to help students see the connections with mathematics and science.

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CASM

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

In CASM's five county service area there is one large district that is considered "High Priority." Because of the large service area (37 school districts), CASM's 2006-07 programming did not specifically target any particular district. Teachers and students from high priority schools participated in CASM programming. Examples of this included the HS-MASS program, the K-7 Science GLCE Reviews, and the Girls Math/Science Conference.

For more information, contact Julie Fick, julie@cascenter.org

CENTRAL MICHIGAN SMTC

The SMTC in partnership with Clare-Gladwin RESD and Gratiot-Isabella RESD sponsored workshops to improve curriculum offerings and teaching techniques in mathematics and science. These workshops were targeted towards improving underachieving schools in our two RESDs.

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COOR M/S CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

Given new graduation requirements for high schools and the demanding high level content expectations for high school and grades 7 and 8, it was deemed very important for the COOR Science and Mathematics Center to become informational experts to help districts understand, navigate, and begin to implement needed changes. Our focus was (and continues to be) helping high schools prevent becoming “High Priority Schools.”

Trimesters was proposed as one of the major solutions to providing time for ALL students to be successful leading up to and transitioning to high school (grades 9-12). That made it necessary to spend a great deal of time on how this would affect science and mathematics classes and scheduling as well as instruction to help all students achieve. Thus a strong focus on leadership was a part of last year’s efforts. These leadership efforts by both the Director and the Science and Mathematics Consultant included:

- Attended numerous state level roll outs and regional meetings to become aware of new high school requirements, content expectations, and the ACT and MME test for 2007
- Met with all COOR local area superintendents (at least 6 times throughout the year) to update them on the new high school science and mathematics graduation requirements and content expectations
- Met on a monthly basis with COOR local district high school principals (as above with superintendents)
- Conducted three awareness sessions on the new science and mathematics content expectations that were held in Fall 2006. These also provided information on the new MME test that included the ACT that juniors took in the Spring 2007 and were in addition to four other workshops provided as part of the HS-MASS project

The science and mathematics consultant worked directly with superintendents, high school principals and key math and science teachers researching, visiting, and discussing implementation of a trimester-based curriculum intended to enable districts to meet the new Science and Mathematics requirements for all students. These included large amounts of time in the following activities:

- Individual meetings with superintendents (initial and follow-up): 6.5 days
- Initial group meetings with all high school principals: 6.5 days
- Follow-up meetings with high school principals: 3.75 days
- Meetings with whole staff in 4 districts: 3.5 days
- Researching models and other districts on trimesters, and visitations: 5 days

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DETROIT M/S CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

Technical assistance and support is being provided to high priority schools (those that have not met AYP in all subject areas). To insure that schools focus on achievement tailored to specific needs, the District has formulated three major interventions: (1) “Chunking Services” or laser-like focused assistance; (2) intervention and assistance teams; and (3) School Improvement Plans. Wayne RESA is providing technical assistance and support to schools in varying stages of corrective action and improvement. Marygrove College works with an additional group of such schools. This is part of the District’s effort to provide chunking support focusing on areas of need. Mathematics and science instructional specialists provide classroom teacher support at selected schools.

The District is addressing the needs of students attending the lowest performing schools by directing additional resources and support services to them. Walk-throughs provide a vehicle to ensure that reforms are implemented at the classroom level. Enhanced student support systems are in place to assist students in meeting District expectations.

Supports vary and include:

- In-school support service 3-4 days a week
- Multimedia carts with ongoing training
- Implementation of a test-taking/study skills course in tested grades
- Identification, training, and direction of a school data manager to support decision making
- Monitoring and adjusting daily pacing progress so no class is left behind
- Expansion of academic learning time
- Early childhood support
- Coaching and mentoring for teachers
- Direct student support which included summer support programs: Transition Academies, Accelerated Reading, Accelerated Math, High School Success Courses, Summer Learning Academies, Corrective Reading, Algebraic Thinking, MEAP University, Support Packs, Study and Test-Taking Skills, and credit high school programs.
- Building data specialists

Curriculum Support: The District has a robust PK-12 curriculum consistent with the Michigan Curriculum Framework and national standards that includes the reading reform initiative SRA/Open Court and the multi-faceted Spotlight on Literature to strengthen reading effectiveness. Mathematics is employing Algebraic Thinking and Accelerated Mathematics to engage students having difficulty meeting designated standards. Curriculum guides outline benchmarks for what students should know and be able to do as they matriculate to the next grade level. Pacing Guides for each grade and core subject outlines the benchmarks, indicators and approximate timeframes for addressing instructional material that should be used to help students achieve the objectives, and other resources to support the teacher on a daily basis.

Use of Assessment to Improve Student Achievement: The DPS has crafted a “Target Setting” assessment system to prepare students for success on the MEAP and the Terra Nova. The battery of assessments is intended to provide information to the District, schools, teachers, parents, and community about the progress toward student achievement goals while identifying strengths and opportunities. The reform effort has yielded measurable gains and MEAP test scores have improved significantly.

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DICKINSON-IRON- MENOMINEE M/S/T CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

The Dickinson-Iron-Menominee Math Science Technology Center has two school districts which failed to make AYP for 2006-2007—West Iron Middle School and Blesh Intermediate. Both schools were involved in the middle school math workshops, AIMS (Activities Integrating Math and Science) workshops and math and science curriculum alignment workshops. At Blesh Intermediate, a Summer Math Camp was run for middle school students using the MVU online Math Camp program combined with one hour of math related games. Initial findings show a significant improvement in the pre- and post-test of students. The final report from MVU is not yet available.

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EASTERN U.P. CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

The EUP MS Center has been using data to identify schools most in need of math and science support for several years. All districts within the service area are provided with extensive data profiles in order to highlight successes and target weaknesses. This year, MS Center staff members have joined with EUPISD Curriculum Consultants in English Language Arts and Social Studies to create profiles of each district and work as teams to support initiatives outlined in each district's school improvement plan.

Each district is also provided with a disaggregated data profile to help identify specific subpopulations that may be at greater risk and therefore require additional intervention strategies or programming. The data indicates students with disabilities are struggling to achieve in mathematics across all grade levels.

In addition to ongoing programming targeted to overall math and science weaknesses in the service area, MS Center staff is now working directly with a high priority alternative high school. The EUPISD will use MS Center director and mathematics consultant as an integral part of an intervention team that will work directly with the school's principal, teachers, and a MDE trained external coach on a weekly basis. The support will be funded by the ISD high priority school funds received on behalf of this building. MS Center staff will be providing specific curriculum, instructional strategy, assessment, and data analysis support throughout the year.

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GENESEE AREA M/S/T CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

The majority of our participants in our Math/Science Partnership (MSP) lesson study and our Michigan Mathematics and Science Center (MMSTLC) grants are from schools in Flint. We also have engaged many elementary buildings in science staff development sessions that were more content specific. About 65% of the “Mr. Science” sessions are in Flint elementary and middle school classrooms. In all cases, we have noticed some very positive changes. Our first priority is to raise achievement scores. Last year the district experienced a rise in their MEAP scores, but more importantly (and not as easily measured), a change of attitude is observable during Mr. Science classroom activities and lesson study sessions. The teachers are seeing and feeling some of the student excitement when doing the units and activities. They are there when quality learning occurs with an increased number of students tuning in. At meetings with the building principals, we hear positive comments about “Mrs. Johnson - who teaches science as an afterthought” now keeping a classroom garden “to help teach about plants”. We have increased the number of principals that want to take advantage of our programming. We are affecting change in the learning environment. The students and the teachers have shown their renewed science energy in increased participation in science fairs and competitions and requests beyond our ability to fill for classroom programs at the outdoor center and for Mr. Science to visit classrooms.

Our Lesson Study initiative was another important effort. Due to the year-long combined work of several teachers from Flint Middle Schools, teachers from three other districts (Beecher, Westwood Heights, and Carman-Ainsworth) and three of our charter academies, now have access to the math activities that this group created and tested in the classroom. Print and electronic copies are available in most of our districts for implementation in classrooms. Most teachers are eager to try a lesson that already has a positive review. Our MMSTLC grant has already offered excellent reinforcement of our lesson study initiative and taken it several steps further. Four Flint teachers, two curriculum consultants and three Kettering University STEM professors have spent several days this spring and summer together engaged in professional development, planning, and substantive conversation. Our plan will help us release these four “trained” teachers to help their building/district with PD needs in math and science and help increase the service capacity of GAMSC.

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GRAND TRAVERSE REGIONAL M/S/T CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

TBAISD currently has no “high priority schools,” defined by MDE as “any school that has not made Adequate Yearly Progress for two or more consecutive years.” Mancelona Middle School is currently (Cycle 2007) in Phase 0 due to “Subgroup” achievement. And although our professional development services are generally available to all districts, significant efforts have been, and will continue to be, made to align curricula and provide training in research-based instructional practices in districts not making, or in danger of not making, AYP.

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REGIONAL M/S CENTER (GVSU)

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

Our work with high-priority schools over the past academic year has taken place on both a local and state-wide level. At the local level, we have collaborated with Grand Rapids Public Schools to provide professional development in mathematics and technology at the elementary and high school levels. At Sherwood Park K-8 School, professional development was conducted with the entire faculty to facilitate the implementation of Everyday Math. In addition, individual/small group mentoring was provided by Instructional Technology faculty and informal teacher learning groups were established. All of the teachers identified technology projects and made some progress in acquiring the tools and software to implement these projects in their classrooms.

Use of technology in the mathematics classroom was also the focus of professional development for high school teachers in Grand Rapids Public Schools. The RMSC included the GRPS mathematics coordinator on the team that attended the TI-84+ training provided by collaborative between the Network and Texas Instruments. Following the workshop, the GRPS Math Coordinator was able to purchase graphing calculators for all juniors in the district for use on the MME. Using materials and strategies from the TI-84+ training, the RMSC Team offered training for teachers on ways to teach students how to use new TI-84 calculators both on the MME and in their classrooms.

At the statewide level, our work with high priority schools has been in planning for professional development to be delivered through the Math and Science Partnership Grant (Michigan Mathematics and Science Teacher Leadership Collaborative – MMSTLC) in collaboration with Saginaw Valley State University and the University of Michigan. Through this collaborative, our goal is to deliver a state-wide program aimed at developing science and mathematics teacher leaders in high priority schools. Work began in January with eight pilot teams and will run for two years. High needs districts include schools in Detroit, Pontiac, Saginaw, Flint, Big Rapids, and the Upper Peninsula. The project will develop the leadership skills and practices among all stakeholders to support quality instruction in mathematics and science.

The MMSTLC Program is beginning to have an impact on schools across the state even though it is still in its first year of implementation. Each of the 16 schools in the program that have a teacher leader identified is in the process of developing an action plan that addresses improving science and mathematics achievement in the school.

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HILLSDALE- LENAWEE-MONROE M/S CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

HLM M/S Center student programs and professional development offerings have been designed to help improve student achievement, including those students who may be considered high-risk or high-priority. At present, there are no schools in Hillsdale, Lenawee, and Monroe counties that are listed by the Michigan Department of Education as high priority schools.

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HURON M/S CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

The Student Achievement Model is a “continuous improvement” approach to increasing achievement for all students. Three-tier instruction, which forms the center of the model, is a preventative approach. By using student data, such as AIMSweb CBM measures to identify at-risk students, grade-level teams “boost up” their core instruction (Tier 1) and implement research-based interventions (Tiers 2 and 3) to assist struggling students before their need becomes too great.

The Center organized and sponsored Saturday Family Tour (fieldtrip) attended by over 60 kindergarten through sixth grade students and parents. The event, Michigan Renaissance Festival, engaged participants in a variety of medieval reenactments, displays, and activities providing our local rural families with an experience well beyond the classroom. Academic "Tour" packets were created to assist in the integration of math and science with social studies/history.

HMSC staff worked with the lead teacher of Horizon Academy, an alternative education high school, to provide mathematics and science education for 31 students in Grades 9-12. Twenty-five percent of Center staff time of both the math consultant and the science consultant was spent in teaching at Horizons. Favorite activities include the “Build Your Own Home” simulation, creating trebuchets, writing number sentences in the math journal (no words required!), and testing toothpick bridges. On the first day of school, one student declared herself to be in “second-grade math” and refused to do algebra. Later that year, she posted the “B” she received on an algebra test with pride on the classroom wall.

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JACKSON COUNTY M/S CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

Elementary Science Improving Teacher Quality (ITQ) Grant (2004-2006): In June of 2006, the Center concluded a two-year, three-phase, elementary science program with Jackson Public Schools (some of which have high priority status), and five other districts. The program included curriculum alignment, production and use of effective assessments, strengthening teachers' science content knowledge, and ongoing support in classrooms for teacher collaboration and implementation of new curricula and instructional practices.

JPS Grades 5 – 12 Science ITQ Grant (2005-2007): The Center concluded a two-year, three-phase, middle school/high school professional development program for 5th through 12th grade science teachers and administrators in the Jackson Public School District, a high priority district. The program included the alignment and articulation of elementary science curriculum with the state benchmarks, the production of effective assessments, the strengthening of teachers' science content knowledge, and ongoing support within classrooms for teacher collaboration and implementation of new curricula and instructional practices.

T³ Teacher Leader Cadre (2006-2007): The Center was a regional training site for the Texas Instruments Teachers Teaching with Technology (T³) Teacher Leader Cadre. Teachers learned how to use the graphing calculators and data collection devices to enhance student learning of Algebra (June-December, 2006). The Center supported teachers from local districts to participate in this program, and three of these teachers were from the Middle School at Parkside, Jackson Public Schools (a high priority school). In turn, these same teachers have now become teacher leaders in Jackson County, designing and presenting a 4-day series of graphing calculator professional development sessions for middle school mathematics teachers (June - August, 2007). Two of these teacher leaders from the Middle School at Parkside have also led graphing calculator professional development for teachers in their own district.

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Michigan
Mathematics and
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KALAMAZOO AREA M/S CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

During the 2006-2007 school year a KAMSC resource teacher was assigned to work with Milwood Middle School each week assisting and supporting teachers, grades 6-8, in the area of science. The Battle Creek Science Kits were obtained and the teachers were trained on the use of two kits per grade for the year. The resource teacher provided the professional development and continued to work with the teachers during the implementation phase of the kits. The resource teacher modeled inquiry-based teaching strategies and met with grade level teachers and served as the curriculum expert in designing a curriculum that was more active and student centered. Resources, strategies, and materials needed to improve student learning were provided.

A solid plan for improving student performance was established via curriculum changes and professional development. The short term impact of this consistent effort was evident in greater student engagement in the classroom and the heightened interest of the teachers in implementing the curriculum. The school saw movement of many students from apprentice to basic on MEAP scores.

Two Milwood Middle School teachers (one math and one science) have been selected to participate in the Michigan Mathematics and Science Leadership Collaborative. The two teachers will complete a one semester sabbatical at the Center, beginning in January.

For more information, contact Brenda Earhart, bearhart@kamsc.k12.mi.us

LAPEER COUNTY M/S CENTER

In 2006-2007 there were only two schools in the county that were identified as "High Priority". The reason for not making AYP was due to the English Language Arts scores for Lapeer West High School subgroup of students classified as students with disabilities.

The other school was Lapeer Community High School, which is the alternative school for the county. They were low in both math and ELA due to not enough students in each category for rating to be applicable.

Both schools have been invited to all professional development offered by the ISD.

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MACOMB COUNTY M/S CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

The Center has continued to expand our implementation of the nationally recognized program “Dynamic Classroom Assessment” (DCA). Using assessment data we have identified our five lowest performing districts. Working with MMLA trainers, these districts are exposed to methods and strategies for working with data to develop meaningful lessons and interventions to help improve mathematics understanding. This year Van Dyke Public Schools, one of our highest priority school districts, will be completing their work with DCA and moving into the next phase of Lesson Study. The district has committed to releasing their teachers for 5 days to allow time for this work.

Another major endeavor undertaken this year with high priority schools was focused directly at the students. This program took nearly 500 low performing (MEAP scores of 3 or 4) 8th grade math students and placed them in Center-run summer schools for 96 hours of classroom instruction. This instruction yielded a county wide average increase in excess of 15% on pre- and post-assessments given as part of “Bridges to Algebra” summer school.

For more information, contact Mike Klein, mklein@misd.net

MANISTEE, WEXFORD- MISSAUKEE M/S CENTER

In the Manistee, Wexford-Missaukee Regional Math/Science Center area there is one underachieving school building. Although we have only one priority school, there are schools that indicate that if they continue at the pace they are currently going, they will be underachieving in the near future. The Center has provided not only a leadership network group (facilitating data analysis, needs assessment, alignment, strategies, and follow-up), but we have reviewed the data and made one-on-one building visits to discuss it and support them in the development of a plan of action. During this time, we help them identify the needs. We also encourage a written action plan to address the needs. The action plan includes the what, when, how and who for implementation. We are monitoring and following up throughout the year.

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MASON-LAKE OCEANA M/S CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

One of our underachieving schools was targeted for intense professional development this year. Even though our director retired in the fall, she continued to work with this school as a consultant for the remainder of the school year. Because of the former director's connection to the Mason-Lake Oceana Mathematics and Science Center, there were times when she called upon the assistance of the consultants and coordinators of MLOMSC to assist in the professional development process. Some professional development activities that were performed by the coordinators and consultants include:

- Helping teachers with curriculum mapping
- Assisting teachers with unit writing
- Facilitating discussions on cross-grade connections
- Identifying "power standards" for teachers most immediate attention
- Joining in the development of the scope and sequence of courses
- Supporting teachers as they look at assessment data for improvement
- Providing curriculum documents to assist teachers in planning and development of curricular changes
- Revisiting curriculum maps that teachers wrote for improvements
- Offering ideas for curriculum resources
- Demonstrating effective classroom strategies

In addition to the direct professional development given to the teachers in this underachieving district, teachers from this district were encouraged to be part of many of our professional development activities through MLOMSC. Teachers from this district were part of HS-MASS, the NMLC Algebra II project, community of learners, AlgeBlocks, common assessment writing, common assessment testing, common assessment data analysis, M-GLAnCE, CPS training, using the Internet to teach mathematics, algebra and geometry with the TI-84+ Silver, probability and statistics for the High School Content Expectations, MMLA, and updates on high school graduation requirements. Students from this district participated in MATHCOUNTS and Hands-On Science. Teachers in this district continue to use the MLOMSC science kits. Teachers from this district have been actively involved in nearly all of our professional development opportunities and the students have participated in many of our student program.

Coordinators and consultants from MLOMSC worked directly with another one of our struggling districts in a data retreat. Some key features of working with this district included:

- Looking at data for strengths and weaknesses
- Providing curriculum documents to assist teachers in realignment of the curriculum
- Demonstrating to teachers how they can access valuable information off the MLOMSC website
- Working with teachers on textbook alignments
- Facilitating discussions on the depth of the new High School Content Expectations

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MAISD REGIONAL M/S CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

Muskegon Heights Public Schools joined two other districts with high priority middle schools, in a professional development partnership with the MRMSC, Western Michigan University, and Muskegon Community College. The Muskegon Area Middle School Mathematics Improvement Project (M³IP) brought special education and general education teachers for grades 5-8 from Muskegon Public Schools, Muskegon Heights Public Schools, and Muskegon Technical Academy together to engage in an intensive professional development program. Fifteen Muskegon Heights regular and special education teachers participated.

M³IP-2 combined extensive content-based professional development programs with district level learning communities, which focused on the Grade Level Content Expectations and classroom practices for better student understanding of mathematics concepts. Five Dinner & Dialogue sessions and four Learning Communities were conducted. Each Dinner & Dialogue presented math content that was both new and challenging for participants. Student work was analyzed using the "Tuning Protocol" as one of the components of the Learning Communities, in order to better understand student thinking and the importance of providing a rich mathematical task for students. M³IP-2 provided an opportunity for participants to engage in collaboration within grades and across grades, to develop a deeper understanding of mathematics and to improve their classroom instructional practice.

The goals of M³IP are to:

- Improve the content and pedagogical knowledge of middle school math teachers.
- Build and sustain learning communities among participating teachers.
- Investigate the effectiveness of a professional development intervention.
- Increase mathematics achievement in grades 5-8.

A *Teacher Facilitator* component was added in order to prepare teachers to sustain Learning Communities. This component will be continued next year as an integral part of the project design. The project evaluation and research activities included pre and post testing of teachers and students, student and teacher surveys, and site visits which included observations of selected classrooms. M³IP-2 content focus for its fourth year will be probability and statistics. This will provide professional development for teachers in all five math strands. The project will continue to emphasize content and process standards, teaching mathematics through problem solving, and how students learn mathematics in the classroom.

"Without a doubt, students at the Academy, many of whom have been labeled "unteachable" in their home schools, are realizing significant growth in their mathematics achievement. We believe, due to our participation in the M3IP project, our middle school mathematics proficiency has increased and benefited." --Barbara C. Stellard, CEO and Superintendent, Muskegon Technical Academy

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NORTHWOODS M/S/T CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

NMSTC continues to help schools improve the quality of teaching and learning by supporting the local schools in analyzing what areas they need to target for professional development. As our schools requested in the information gathering meetings in 2005-2006, we focused on curriculum alignment using a technology tool, Build Your Own Curriculum (BYOC). This program was selected by the local administration with teams of teachers helping. This is an online curriculum mapping. The 2006-2007 focus was on curriculum alignment as the spring 2006 needs assessment dictated. In 2006-2007, as predicted, the LEA buildings used more days to work on their curriculum beyond the two or three professional development days that were set aside to work together with the NMSTC staff. In 2006-2007 professional development tied together the LEAs greatest needs to the solutions NMSTC, DSISD, and the LEAs have developed together. The professional development combines curriculum mapping training with MCF, GLCE and HSCE professional development. Success was shown in the higher achievement of students across the region on MEAP and ACT scores.

This year NMSTC staff began working in particular with Nah Tah Wahsh Public School Academy (NTW) to improve their mathematics and overall school improvement process. This high priority school is a Native American school that is also working with Northern Michigan University to improve its teaching and learning. With the help of various grants, our science and mathematics consultants are working with the staff to improve the school improvement process at NTW. The MDE had a SIP grant that will provide funds to help the NTW School improve the school improvement process, part of the work of our science consultant. He is helping them analyze their MEAP results and set measurable goals to help set student achievement standards for all. Our NMSTC Director helped the K-8 mathematics teachers put on a series of mathematics professional development days in math problem solving content in cooperation with the Michigan Mathematics and Science Teacher Leadership Collaborative program. We began this effort in June and will continue these efforts into the 2007-2008 school year. We hope to organize a mathematics hands-on program, design a series of content courses, and provide manipulatives along with the training to help provide instruction on how to use them. The K-8 curriculum will be aligned and implemented throughout the year.

For more information, contact Tom Abramsom, tabramson@dsisd.k12.mi.us



OAKLAND SCHOOLS S/M/T CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

OSMTech Center has continually focused its efforts (time and resources) to address needs of underachieving (high priority) schools in our county, both in mathematics and science. The districts that were identified in this category in the past year have received resources in the form of curriculum materials, professional development on the use of these materials, initial training in the use of “backward design” for curriculum unit development, received the Oakland Schools Science Benchmark Assessment Guide (OSSBAG) CD which contains at least one performance-based assessment item with a rubric for each of the “using” science benchmarks (K-12). In addition, the CD provides a breakdown of the knowledge and skills needed to master each GLCE. We developed and instituted a curriculum inventory process for each school.

Each underachieving school was invited to participate in the specially designed professional development program series’ offered: OS MERC or VISIONS.

Development of Science Coaches. The Oakland County Coaches Academy for Science and the Mathematics Academy was organized and embarked on an ambitious and successful plan to identify, train, and place science and mathematics coaches in high priority schools. These coaches were selected on the basis of their known successful past teaching experiences and knowledge of mathematics and science. The coaches, all recent retirees, shared their time, talents and experiences with those teachers in targeted schools/districts, desiring to improve their teaching skills and content knowledge. As a result of the coaches’ involvement, teachers in targeted schools reported an increase in understanding of the application of science in the real world and expressed more interest in hands-on involvement in science and mathematics.

For more information, contact LaMoine Motz, lamoine.motz@oakland.k12.mi.us



SANILAC COUNTY M/S CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

Sanilac County does not have any schools with official "high priority" designation. We do, however, take very seriously our responsibility to assist local districts in improving the achievement of all students. To this end, we have provided high quality professional development for teachers and administrators focused on aligning curriculum, instruction, and assessment. During the school year, we collaborated with local districts to focus on understanding and making meaningful use of data to improve student achievement.

We also supported the implementation of the Michigan Grade Level Content Expectations through professional development and curriculum support. In addition, we assisted schools in engaging in the Michigan High School Reform Initiative by introducing draft standards, helping to prepare students and teachers for success on the Michigan Merit Exam, and more.

For more information, contact dwild@sanilac.k12.mi.us



Michigan
Mathematics and
Science Centers Network

GLENN T. SEABORG M/S CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

There is currently one high-priority school district in our service area, and it includes both a middle school and a high school. Marquette-Alger RESA (MARESA) and the Seaborg Center are working together with the teaching staff to focus on building a curriculum that aligns more closely with the new course content expectations.

MARESA performs yearly analyses of local MEAP data to identify areas of content weakness. The Seaborg Center and MARESA work together to address these areas through professional development before students fail to achieve adequate progress. Initiatives include the following:

- Eight districts participated in the MSP "Building Bridges" mathematics grant for middle and high school mathematics teachers.
- Mathematics and Science Learning Teams were formed to focus on implementing course and grade level content expectations. All local districts sent representatives to these meetings.
- The Seaborg Center worked together with faculty members from the Mathematics and Science Education departments at Northern Michigan University to help schools implement new high school content expectations.

For more information, contact Debra Homeier, dhomeier@nmu.edu

SEE-NORTH

Mathematics and Science Partnership Grant Proposal: SEE-North and the University of Michigan targeted Wolverine Community Schools in a proposal for a federal Mathematics and Science Partnership grant. This grant was not funded.

MMSTLC: In recruiting Teacher Leaders for the MMSTLC grant, SEE-North targeted underachieving schools in the region. SEE-North will develop specific outcomes for engaging teachers from underachieving schools during the dissemination phase of MMSTLC, which will occur in 2008-09.

Collaboration: SEE-North responded to requests from Wolverine Community Schools to provide student enrichment programs, and assistance with math and science curriculum.

Promotion and Recruitment: SEE-North worked with area ISDs to target under-achieving schools when advertising programs or services.

For more information, contact Marty Samson, martys@seenorth.org



SVSU REGIONAL M/S CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

For the past four years we have been fortunate to have a number of Title IIA and B grants that have allowed us to work intensively with three high need districts in our service area. Bridgeport-Spaulding, Saginaw and Buena Vista.

We have had extensive intervention with all of the teachers in the Bridgeport-Spaulding and Buena Vista school districts in both Mathematics and Science and pilot groups of both in Saginaw. Long term intervention with PD and pedagogy upgrades has positioned these districts to be able to respond to all of the latest initiatives in mathematics and science in a positive way. Pre- and post-tests of teachers and students have indicated significant impacts and improvement in student performance. More than 90 teachers in Bridgeport-Spaulding, 35 teachers in Buena Vista and 50 teachers in Saginaw have been impacted.

For more information, contact Walter Rathkamp, rathkamp@svsu.edu



WAYNE RESA, M/S CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

Since Fall 2004, the Wayne County Mathematics and Science Center at Wayne RESA has worked in partnership with the Center of Mathematics Education at the University of Michigan-Dearborn and the Hamtramck and Highland Park school districts to address the challenge of improving student achievement scores in mathematics through Project: Making Mathematics Matter (PM³). This Wayne County initiative is funded through MSP funds overseen by the Michigan Department of Education to increase the body of research about what kind of professional development makes a positive difference, specifically for mathematics teachers.

The Center was awarded a continuation grant in 2006. PM³ was designed to be a systemic initiative with experimental design and two major components—mathematics institutes and mathematics coaching. We will focus on the former. The grant leadership partners planned a sequence of Mathematics Institute classes for fifty teachers of mathematics in grades 4 through 8 from Hamtramck and Highland Park. Each class is designed for thirty hours of professional development and carries graduate credit to help participants work toward “highly qualified” status under NCLB. To date, we have obtained the following information regarding the mathematics institutes from our evaluator.

Overall, the Institutes resulted in substantive improvement in mathematics content, pedagogy, and instructional practice. Teachers’ responses regarding their collegial interaction may have implications for the Institute approach. When asked what they considered the most valuable among their Institute experiences, the most frequent response was the opportunity to work closely with their colleagues.

Further, they reported that this interaction continued after the Institute. Evidence also suggests that effective learning communities were fostered in both districts in the project. Teachers emphasized the advantages of working together with their own district colleagues, but also described the advantages of hearing different perspectives from their colleagues in the other district. They recognized that the other district presented different challenges and priorities, but found their neighbors’ contributions worthwhile.

The other major benefit that all Institute teachers mentioned was that of learning to take their students’ perspectives through challenging problems they themselves had to struggle to solve, thereby learning to “think like my students.” Through this process, they also learned the value of effective questioning and taking the role of guide rather than lecturer in their classrooms.

The improvement in student attitudes in concert with an increase in teacher content knowledge suggests that student attitudes may be strongly related to what teachers’ know and believe.

For more information, contact Libby Trenkle, trenkll@resa.net



WESTERN U.P. CENTER

SPOTLIGHT ON HIGH PRIORITY SCHOOLS

Thirteen of nineteen districts in the Western UP Center's service area made AYP for the 2006. Baraga High School did not make AYP in mathematics and ELA. Five districts at the high school level did not make AYP for first time due to their special education subgroup. Teachers and administrators from these districts attended the professional development offered by the Center that helped school districts meet the federal and state mandates and improve teaching and learning. The Center offered high quality professional development that addressed these mandates:

HIGH SCHOOL REFORM. Multiple workshops were conducted at various locations to inform teachers and administrators about High School Graduation Requirements, and High School Content Expectations. A comprehensive two-day workshop was held to provide teachers with strategies to help prepare all students for the Michigan Merit Exam.

NEW TEACHER MENTOR WORKSHOP SERIES. A series of seven workshops provided new teachers and their mentors with the resources and knowledge to help new teachers create an effective learning experience for their students. This professional development helped teachers and their districts meet the professional development requirement for new teachers.

SCHOOL IMPROVEMENT WORKSHOP SERIES. A series of three workshops guided administrators and school improvement teams on the new School Improvement Framework and rubrics. The Center provided assistance to districts on how to complete the rubrics for ED YES.

SIG AYP MATHEMATICS GRANT APPLICATION. The Western UP Center collaborated with the other four math and science centers in the Upper Peninsula to secure grants funds to provide comprehensive professional development to special education and general education teachers at the middle school level for the 2007-08 school year.

For more information, contact Shawn Oppliger, shawn@copperisd.org