

Manistee, Wexford-Missaukee Regional M/S Center 2008-2009 Annual Report

The Manistee, Wexford-Missaukee Regional Math/Science Center serves a three county region in northwestern Lower Michigan (Manistee, Missaukee, and Wexford Counties). The local districts are spread across a large, sparsely populated region. The Center's mission is to provide the local districts of Manistee and Wexford-Missaukee Intermediate School Districts with services that support and enhance student learning of mathematics, science, and technology.

Overview of the Year's Accomplishments

This year the Manistee, Wexford-Missaukee Math/Science Center has continued to dig deeper into Grade Level Content Expectations and Data Driven Decision Making. The Center has projects that began in 2004 but are now fully implementing and achieving effective school practice. The Center will continue to use the effective school framework which includes the following components: mission, vision, values and goals, collaborative teams, data driven decisions, intervention/prevention systems, leadership, parent, and community involvement. The Center practices and implements these strategies through professional learning communities.

Middle School Mathematics – The Manistee, Wexford-Missaukee Math/Science Center has continued to work with the Middle School Mathematics teachers for the past 3 years. For more information see page 4.

Math Pacing Guides and Common Assessments – The 3-8th grade Math Pacing Guides were implemented 2004-2005. We have worked with local districts in the understanding and use of the guides. For more information see page 4.

Math and Science Teacher Network Groups – We continue to offer separate Math and Science Network Groups to Manistee ISD and Wexford-Missaukee ISD. We are increasing participation each year. For more information see page 4.

Second K-7 Science Institute – In our systematic curriculum review process we set up the second K-7 Science Institute this year. For more information see page 4.

Michigan Math and Science Teacher Leadership Collaborative (MMSTLC) – Over the past year we have had the opportunity to participate in MMSTLC. We had one teacher from science and one teacher from math participate and take a sabbatical for the 2nd semester of the school year. For more information see page 4.

Math and Science Data Analysis – This is the sixth year the Manistee, Wexford-Missaukee Math/Science Center provided Math Analysis support. We provided an analysis report for each building and district within the Manistee Regional Math/Science Center.

LEGO Competition – This is our fourth year working on LEGO/Robotics and offering a competition to our local districts. For more information see page 5.

Science Olympiad – The Manistee, Wexford-Missaukee Regional Math/Science Center sponsored a Science Olympiad Day for over 400 students from 9 different elementary schools. For more information see page 5.

Organization of the Report

The Strategic Plan identifies six service areas: Leadership, Professional Development, Student Services, Curriculum Support, Community Involvement, and Resource Clearinghouse. This report will focus on Professional Development and Student Services for the entire service area. In addition, there will be narrative targeting work done with underachieving schools in the area.

REGION-WIDE PROFESSIONAL DEVELOPMENT

Goal: For educators who participate in Center Professional Development to reflect best instructional practices in their own settings.

Who participated?

Professional development opportunities were provided for classroom teachers, classroom support staff, administrators, parents/community members, and others involved in K-12 education. The chart and summary descriptions show who participated.

Table 1: Participants Receiving Professional Development

Participants			Reported Gender		Position					
			M	F	Admin	Math Tchr	Sci Tchr	Tech	Comb Subj	Other or Unknown*
	# of Individ.	Total Hours								
Pre-School	0	0	0	0	0	0	0	0	0	0
Elementary	110	713.5	26	84	11	4	2	0	90	3
Middle/Jr. High	38	356.5	19	19	5	10	12	1	6	4
High School	56	544.5	33	23	7	20	13	1	1	14
K-12 Mixed Levels	43	366	16	27	13	4	4	3	4	15
Other	1	2	0	1	0	0	0	0	0	1
Total	248	1982.5	94	154	36	38	31	5	101	37

* Other includes persons who work across levels, are not teachers or administrators, or did not indicate position.

Professional development was delivered in many ways, depending upon the identified needs. Two primary formats included: (1) **Single events**, lasting for a portion of one day to several consecutive days, focused on a particular topic, skill, or issue; and (2) **Series** which were a series of sessions (each building on the previous and conducted periodically over a several week/month period). The goal was to systematically strengthen teaching practices based on local needs and current research. Table 2 on the following page represents a picture of the number of sessions offered and the rate of attendance.

Teachers, on average, spent 7.9 hours on mathematics, science, or technology professional development.

Table 2: Professional Development Activities

		Math	Science	Technology	Other	Total
Elementary	Events	1	4	0	8	13
	Hours	3	15	0	8	26
	# Participants	5	34	0	110	149
Elementary and Middle School	Events	4	8	0	0	12
	Hours	8	22.25	0	0	30.25
	# Participants	31	133	0	0	164
Middle School/Jr. High	Events	1	0	1	8	10
	Hours	5	0	5	8	18
	# Participants	15	0	6	72	93
Middle School and High School	Events	10	1	0	0	11
	Hours	24	6	0	0	30
	# Participants	49	5	0	0	54
High School	Events	12	9	0	10	31
	Hours	35	21.5	0	10	66.5
	# Participants	84	81	0	101	266
K-12 Mixed Levels	Events	2	0	0	21	23
	Hours	6	0	0	22.5	28.5
	# Participants	15	0	0	200	215
Total	Events	30	22	1	47	100
	Hours	81	64.75	5	48.5	199.25
	# Participants	199	253	6	483	941

Spotlight on Professional Development

Manistee, Wexford-Missaukee Math/Science Center continues to change professional development past practice into best practice. We have gone from stand alone center based professional development to professional development that more closely aligns with effective professional development research. We are developing ongoing researched based professional development for our Math and Science teachers. We are very excited about our Math and Science Network groups that continue in both Manistee and Wexford-Missaukee ISD. We are also excited about our new opportunities from our experiences with MMSTLC. We are aware and believe in professional development being within the context and process of the classroom instruction. We bring together Math and Science lead teachers from each district and building at least 5 times per year. During our Math and Science network groups we review and analyze data. We align, pace and then set priorities, conduct research on scientifically based best practice, schedule professional development, implement, and then go back to review and analyze data.

The lead Math and Science teachers are expected to go back to their local districts and buildings and share information, provide leadership and instruction for implementation. We are building capacity for support within the buildings and modeling effective continuous school improvement through this model. Our facilitators have received training in Professional Learning Communities and effective school practice. We will continue to work with Strategies That Work training for both the Math and Science Network Teams this year.

We continue to provide the data packet to analyze Math and Science progress. Manistee Regional Math/Science Center has provided the content and strand data analysis for both Math and Science. This information has been brought to the Math and Science Network Teams and taken into each building to share and analyze. This was our fourth year in providing this service. We are now seeing utilization of the charts and monitoring the adjustments being made to achieve higher student success. The local districts have extended their appreciation for the service. We are seeing positive results and successful outcomes, assessment data analyzed, using the team approach to research, and understanding of scientifically based research. We predict student achievement going up with the ongoing work with the leadership group.

Middle School Mathematics – The Manistee, Wexford-Missaukee Math/Science Center has continued to work with the Middle School Mathematics teachers for the past 3 years. We have continued to adjust our common assessments and pacing. This year we participated in a program called Michigan Mathematics and Science Teacher Leadership Collaborative in which the focus has been inquiry in math and proportionality. During the two day training our mathematics Teacher Leader worked with a group of middle school mathematics teachers to update their pacing guides into units instead of by quarters and also to begin looking at teacher mathematics using an inquiry approach.

Math Pacing Guides and Common Assessments – The 3-8th grade Math Pacing Guides were implemented 2004-2005. We have worked with local districts in the understanding and use of the guides. We have set up a routine review of the guides for any adjustments that may need to be made. We had all schools in Wexford-Missaukee take the Annual Common Assessments 3rd Grade through 8th grade online through Class Server. Manistee ISD implemented Math Common Assessments (BAP) for 3 through 8 grades also through Classroom Performance System (CPS) units. Manistee ISD updated the math BAP this summer and has many teachers involved in the systematic process. We are very excited to have all districts participate and work together in the development and implementation of the common assessments. Data is available on not only the district grade, but also the Grade Level Content Expectation itself. The data paints a picture for teachers that will drive instructional needs. We were also able to move ahead on the quarterly common assessment pilot this year with WMISD schools. We have quarterly Math common assessments developed for grades 3 through 8. All schools within Wexford-Missaukee ISD were able to complete all the quarterly assessments. This coming year we expect the quarterly assessments to be available to Manistee ISD and hope more schools will decide to assess more often. We continue to use the data to change instruction and understand the level of learning that has taken place. We are extremely pleased with the progress that has been made in assessment of the curriculum and more specifically the Grade Level Content Expectations. Please see our website for the Pacing Guides www.wmisd.org.

Math and Science Teacher Network Groups – We continue to offer separate Math and Science Network Groups to Manistee ISD and Wexford-Missaukee ISD. We are increasing participation each year. We run the Network meetings as a Professional Learning Community. We are getting more and more teachers to return and bring along their peers. It is a wonderful opportunity for teachers to learn and share with one another.

Second K-7 Science Institute – In our systematic curriculum review process we set up the second K-7 Science Institute this year. Three years ago we did Middle School Mathematics, 2 years ago was High School Science, and the past two years we continue to work with K-7 Science and their new content expectations and developing units for each grade level. We modeled what has worked in the past. Our Science Institute was held on June 11 and 12, 2009. We invited all kindergarten through 7th grade teachers within our service area. We had excellent participation. We reviewed the MEAP data to look at our progress in the area of K-7 science. Secondly, we worked on creating units for each grade level using a template that was developed by our Teacher Specialist Leader (TSL) from the Michigan Mathematics and Science Teacher Leadership Collaborative. We will have 4 units developed for each grade level K-5. It has been a wonderful experience and has led to some great discussion. We had excellent ratings for the institute. We think our success was due to active participation in improvement planning and research (professional learning community).

Michigan Math and Science Teacher Leadership Collaborative (MMSTLC) – Over the past year we have had the opportunity to participate in MMSTLC. We had one teacher from science and one teacher from math participate and take a sabbatical for the 2nd semester of the school year. The teacher leaders have taken this opportunity to gain knowledge in the areas of: leadership, content knowledge, inquiry, instructional practices, and technology by attending national conferences for math and science as well as local professional development. The math TSL has created many lessons on low scoring GLCEs on the MEAP as well as linking our Pacing Guides to MEAP like assessment questions. All documents created are posted on our website and available for any teacher in the state to use. The science TSL created a template for designing lessons for units. Each grade level K-5 will have 4 units created by topic/discipline. These units are also available on our website.

Student Services

Student services are delivered based on identified needs to improve and enhance mathematics and science education. Students who participate in enrichment activities have the opportunity to explore new concepts, develop process skills, cooperate on group tasks, and discuss their findings. Student services include:

- ❖ school-day classroom programs provided by Center staff
- ❖ after-school and summer enrichment and support programs
- ❖ field trips to museums, natural areas, laboratories, and businesses to expose students to practical application of mathematics and science knowledge
- ❖ organization of science and mathematics fairs and academic competitions

Table 3: Student Services Activities Provided in 2008-2009

		Math	Science	Technology	Total
Middle School/Jr. High	Events	13	1	2	16
	Hours	13	3	9	25
	# Participants	222	410	178	810
Total	Events	13	1	2	16
	Hours	13	3	9	25
	# Participants	222	410	178	810

Spotlight on Innovative Student Programs

We sponsor the following: LEGO's, Math Counts, Science Olympiad and Michigan Math and Science Symposium.

LEGO Competition – This is our fourth year working on LEGO/Robotics and offering a competition to our local districts. Seven districts chose to be a part of our pilot; we have multiple teachers that we have been trained and 2 different sets of LEGO kits in each of our seven participating districts. The competition is in May and we had over 60 students participate in the competition or the exposition. The competition focused on green energy and the exposition was called “Boogie Bots” and the students had to program their robots to dance to music. We were very pleased with the results and will continue to expand and challenge our schools with the LEGO program. Manistee ISD schools have the opportunity to participate in the challenge via distance!

Science Olympiad – The Manistee, Wexford-Missaukee Regional Math/Science Center sponsored a Science Olympiad Day for over 400 students from 9 different elementary schools. Each student had the opportunity to participate in 11 different Science events. Students learned a great deal and had a lot of fun doing so.

Spotlight on High-Priority Schools

We have a high priority school within our Math/Science Center – Casman Alternative Academy. Our support of Casman includes weekly attendance at their PLC meetings. Kim Shannon consults with the Science teacher and science coach assigned to them and Kay Salyer works with the Math teacher and math coach assigned to them. We assist with curriculum, instruction, assessment and intervention ideas. We look at data and help set goals and proficiency targets with teachers, staff and administrators at Casman. We are frequently asked to present at their in-service days and facilitate Math and Science Network groups of which the Casman teachers are participating members.

Spotlight on Partnerships

Manistee, Wexford-Missaukee Math/Science Center has been working on developing partnerships in a couple of different venues. Within the WMISD area we have developed a partnership with Baker College. Baker has been providing “Math Makes a Difference” training and mentors to work in our 7th and 8th Grades the past three years to target low achievement areas and provide support for improvement through utilization of the Math Counts materials. Baker has committed to the training, the organization of the seeking the mentors and setting schedules. To do so, they will be working with our Industrial Group and engineers from the Michigan Department of Transportation to provide the people needed for the mentor program. This is a huge commitment for Baker and we appreciate their willingness to support Math/Science education in our area.

Within the Manistee ISD they have had successful history of working with the local engineers. The local engineer group developed a Math Counts competition within their area and has done so for the past several years.

We have also developed a partnership with Ferris State University this past year to work on a collaborative project. The project is Michigan Mathematics and Science Teacher Leadership Collaborative, which is a grant available to the Math/Science Center Network Group. We are part of Cadre II and are working on an on-going basis with a STEM faculty for both math and science from Ferris. We are continuing this partnership as it has been a great experience and opportunity for our Math/Science Center.

Spotlight on Value of Statewide Projects

There have been many advantages to statewide projects. Some of them including but not limited to: money to provide the professional development, more buy-in from teachers and administrators, consistent message throughout the state, collaboration among schools and teachers, collaboration among Math/Science Centers, and last but not least on-going partnerships with M/S centers, MDE, ISDs and institutes of higher education. As a result, teachers gain knowledge in their specific content area and pedagogical practices.

What was the impact of the Manistee, Wexford-Missaukee Regional Math/Science Center?

Impact on Students

- Direct student program - Math/Science Symposium, Math Counts, Lego Robotics Expo & Challenge, and Science Olympiad.
- MEAP data shared with teachers across the area have impacted the alignment of what is taught at each grade level. The data also indicated what areas are deficient. This enabled teachers to come up with a plan to meet the needs for the students.

Impact on Teachers

- MEAP Data shared with teacher across the area have impacted the alignment of what is taught at each grade level. The data also indicated what areas are deficient. This enabled teachers to come up with a plan to meet the needs of all learners and impact achievement.
- K-7 Science Institute – lessons/units online.
- K-8 Math – Pacing Guides, quarterly and annual assessment 3rd – 8th grade. Protocols for reviewing and revising pacing and assessments. Lessons and activities online.
- HS math and science assessments, textbook alignments, and pacing by unit.

Impact on Schools

- All school districts and buildings within Manistee, Wexford-Missaukee Regional M/S Center received the Math and Science MEAP data analysis for both content and strand.
- Professional Learning Communities are consistently meeting the goal of higher student achievement.
- Math content expectations are aligned and paced for purpose of quarterly assessments.

Impact on Communities

- Math/Science Symposium students are working with the business leaders in providing support for Industrial Environmental concerns and for medical concerns for students.
- Our local DNR Carl T. Johnson Center has Distance Education Equipment which works with schools and community groups.
- Baker College has committed to working with not only schools, but with their adult students to deepen the understanding, of why all students need higher level math skills and courses.
- Ferris State University – work with teachers to improve content knowledge in the areas of math and science.

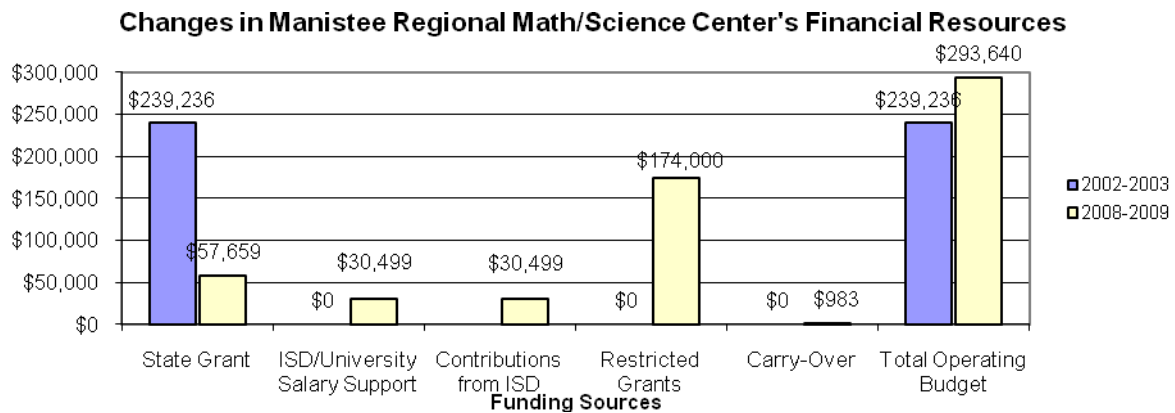
Director's 2008-2009 Budget Discussion

This past year has been another year of review, assessment and adjustment for new shared responsibilities for Math/Science Center Services. As of July 1, 2003 Wexford-Missaukee ISD assumed the Fiscal Responsibility for the Manistee Regional Math/Science Center. At that time we were not sure of funding stability. We have adjusted our spending and services to reflect the 75% reduction. In a joint decision with both ISD General Education Directors and the Math/Science Executive Board, it was decided that we would spend the carryover money for the next two years. We were trying to build in as many years of service as we could with what we had. Our Chittenden Math/Science Center Site was closed down. Each ISD agreed to share in the operation of the Math/Science Center. We wanted as much financial support as possible for direct services to districts. We have developed an inventory of materials, and developed a check out system. Manistee ISD has the Math materials and Wexford-Missaukee has the Science materials. The Manistee, Wexford-Missaukee Math/Science Center Team (Karen Mlcek, Jodi Redman, Kay Salyer and Kim Shannon) develop the plan and meet on a monthly basis and review Math/Science Center Activities. We have at least five Executive (Superintendents and Directors) Board meetings a year. We have contracted some secretarial, data analysis, and science consultant services. We have purchased Math/Science materials to add to our outreach material collection.

The Manistee, Wexford-Missaukee Regional Math Science Center has been extremely conservative in our spending. The Executive Board believes in utilizing as much of the funding possible to go to direct support of increasing student achievement in Math and Science.

We expect \$57,767 in Section 99 Grant funds for our Center this year. We plan on utilizing about a third on salary to provide Math and Science content staff. We also utilize funds for data analysis, contracted secretarial support, continued review and revisions of common assessments, and direct student programs (Math Counts, Math/Science Symposium, Science Olympiad, and LEGO/Robotics).

Changes in the Center's funding are shown in the graph below.



In addition to the financial support illustrated in the graph above, "in-kind" services received by the Center (donated volunteer time, facilities and equipment) were valued at \$12,302.

Director's Summary 2008-2009

Manistee, Wexford-Missaukee Regional Math/Science Center has focused on making positive changes in Professional Development and providing additional services in an outreach format. We have provided additional services in data analysis which has been received very well and brought much needed information into the buildings. We provided curriculum alignment training for the network groups. Wexford-Missaukee ISD facilitated the development and review of Pacing Guides in Math for grades K-8. We have shared the Pacing Guides with Manistee ISD for their use. The Pacing Guides have provided a much needed support in the development of grade level common assessments to more accurately assess progress within the year. We have also developed a protocol in which we revise and update the common assessments and Pacing Guides. We have developed a website www.wmisd.org, posted updates and links.

We have increased student programs this year (LEGO Project). We hope to continue and increase the participation throughout the Manistee, Wexford-Missaukee Regional Math/Science Center service area.

We continue to take time to work on shared responsibilities for maximum effectiveness of the Math/Science Center between Manistee and Wexford-Missaukee ISDs. Both ISD's have taken on duties to support the Center to build capacity for ongoing math and science support.