

PARTNERSHIP ENHANCEMENT PROJECT (PEP) PROGRAM - ORGANIZATIONAL CHART

ADMINISTRATIVE PERSONNEL

- Project Director
- Project Associate Director & Program Coordinator

PROGRAM EVALUATION
PERSONNEL

AMSP Internal and External
Evaluation Personnel

OUTREACH PERSONNEL

- Outreach Professors
- Regional Program Coordinators

LOCAL PARTNERSHIP

- K-12 Curriculum and Instructional Leaders
- K-12 Elementary, Special Education, and Secondary Math and Science Teachers
- K-12 Preservice Teachers
- Higher Education Math, Science and Education Faculty Members
- Regional Math and Science Education Consultants
- Community and Governmental Professional Agency Personnel
- K-12 Students

For more information, contact Don Long, AMSP Associate Director and PEP Program Coordinator - (859) 257-3273 or don.long@uky.edu

PARTNERSHIP ENHANCEMENT PROJECT PROGRAM - CONCEPT MODEL

INPUTS	ACTIVITIES	SHORT-TERM OUTCOMES	LONG-TERM OUTCOMES
<p><u>Human Resources</u> and sources of supportive funding</p> <p><i>K-12 Curriculum & Instructional Leaders</i> (Local K-12 funds)</p> <p><i>K-12 Teachers</i> (PEP awards for participant costs)</p> <p><i>Higher Education Mathematics & Science Faculty</i> (subawards & consultant contracts)</p> <p><i>AMSP Outreach Personnel: Outreach Professors & Regional Program Coordinators</i> (AMSP funds & subawards)</p> <p><i>Regional Math & Science Education Consultants</i> (consultant contracts)</p> <p><i>Various Community and Governmental Personnel</i> (nonAMSP funding)</p> <p><i>AMSP Administrative Personnel</i> (AMSP funds & host IHE in-kind)</p> <p><i>AMSP Internal and External Evaluation Personnel</i> (AMSP funds, subaward & RETA assignment)</p>	<p>AMSP outreach and administrative staff members act as catalysts of local partnerships which address local math and science education reform needs in a creative manner informed by best practice models.</p> <p>While the AMSP staff advises and assists, each project is owned and driven by the local partners.</p> <p>Formative and summative evaluation development and implementation are conducted by each local partnership and the program evaluation team. Coordination of these efforts is on-going.</p> <p>An indication of the significant local insight and initiative that is empowered through this process is the diversity of levels of instruction and curricula that are being reformed, as well as the methods employed within the nineteen funded projects to date. The following pages provide brief descriptions of each local partnership.</p>	<p>Two important short-term outcomes are as follows:</p> <p>An expansion and deepening of the network of professional relationships among K-16 math and science educators. Reports indicate increased levels of communication, understanding, and collaborations across the K-16 spectrum. In many instances the partnerships are drawing education institutions together for the first time, leading to multiple avenues of education reform efforts.</p> <p>Another important measure of outcomes is the numbers of educators directly involved and students impacted. In 2005, ten projects were awarded and these are providing professional development and math/science curricular reform support for 246 elementary (including special needs) and 170 middle and high school in-service and 74 pre-service mathematics and science teachers. The numbers of students instructed by these teachers this academic year is approximately 14,700.</p>	<p>Increased cooperative relationships related to mathematics and science education reform among K-12 and higher education institutions.</p> <p>A change in culture among math and science educators and institutions to one with a broader vision and mission of their role in math and science education.</p> <p>Improved quality and quantity of the mathematics and science teacher workforce.</p> <p>Increased capacity of K-12 districts to facilitate professional development programs.</p> <p>Increased math and science learning and performance for all students, including the reduction of gaps between subgroups.</p> <p>Increased student entry and completion of post-secondary degrees that emphasize math and science.</p> <p>Increased numbers of preservice math and science teachers entering the profession well-prepared to deliver high-quality instruction.</p>

Appalachian Mathematics and Science Partnership

BRIEF DESCRIPTIONS OF LOCAL PEP PARTNERSHIPS:

1. A partnership of four elementary schools, a regional university and a state department of education is embedding literature with exemplary science content into primary grade literacy programs. More than 40 teachers are involved. The partners are **Madison County, KY School District** and Eastern Kentucky University.
2. A partnership of four school districts and a major research university are institutionalizing an “Understanding by Design” approach to secondary math and science lesson development. In this case, 40 lead and 15 preservice teachers are developing, implementing, and refining math and science lessons. The lead partner is **Oneida Special School District, TN** and the higher education partner is the University of Tennessee.
3. A partnership of two school districts and a research university have developed and implemented standards-based assessment instruments for secondary mathematics and science courses. Analyses of assessment results are being used for curricula reform and alignment across the grades, as well as differentiated pedagogy. Sixty-five teachers are involved. The lead partner is **Jessamine County, KY School District** and the higher education partner is the University of Kentucky.
4. A partnership of a school district and a regional university is completing a comprehensive reform of the primary school mathematics curriculum to a standards-based model (*Trailblazers*), including professional development for about 40 principals, curriculum leaders and teachers. The lead partner is **Powell County, KY School District** and the higher education partner is Eastern Kentucky University.
5. A partnership of a large school district and a regional community college has developed a set of web-based tutorial modules in mathematics, with use of these during daily instruction, and facilitation of standards-based teacher and parent mathematics development programs, involving 56 secondary math teachers and two preservice teachers. The lead partner is **Pulaski County, KY School District** and the higher education partner is Somerset Community College.
6. A partnership of a public education foundation, four school districts and a regional state college are adopting a set of high school activities, including a new course, which raises awareness and encourages high school students to consider careers in mathematics and science education; widely known as The Teacher Cadet Program. Project directly involves 25 teachers and 50 students each year. The lead partner is the **SW Virginia Public Ed Foundation** and the higher education partner is the University of Virginia’s College at Wise.
7. A partnership of two school districts and a regional university have facilitated professional development and mentoring support for 30 secondary regular, 15 special education and 5 preservice teachers in implementing the newly adopted *Connected Mathematics* curriculum. The lead partner is **Clark County, KY School District** and the higher education partner is Morehead State University.
8. A partnership of a large school district, a chamber of commerce, other community organizations and a regional university are facilitating a series of town hall meetings with parents to discuss STEM education in their schools and careers in their local economy. Secondary students are also touring businesses to motivate them to pursue higher level education and STEM careers. One hundred and fifty teachers are engaged in the work. The lead partner for this project is **Madison County, KY School District** and the higher education partner is Eastern Kentucky University.
9. A partnership of two school districts and two regional universities have implemented a comprehensive reform of the district’s elementary schools mathematics curriculums to a content standards-based model incorporating the Kentucky Core Content and Program of Studies, including professional development for

34 teachers. The lead partner is **Pike County, KY School District** and the higher education partners are Eastern Kentucky University and Morehead State University.

10. A partnership of a school district, a regional university and a major research university has developed and implemented an inquiry-based high school science curriculum with research/inquiry experiences for students provided by higher education content experts. Thirty secondary science administrators and teachers are engaged. The lead partner is **Lewis County, KY School District** and the higher education partners are Morehead State University and the University of Kentucky.

11. A partnership of a school district and a regional university has developed preK-8 mathematics teachers' knowledge of both content and pedagogy by delivering a professional development program for approximately 120 teachers, including ongoing support for effective classroom implementation. In addition, parent involvement and education of effective math strategies to use with their children has been facilitated. The lead partner is **Estill County, KY School District** and the higher education partner is Eastern Kentucky University.

12. A partnership of a school district and a major research university are implementing a research lesson study approach to developing a series of math/science integrated middle school lessons. A team that includes six middle school math and science teachers, a tenured biology professor, and an AMSP Regional Program Coordinator/Math Education consultant has developed and are reforming the curriculum using quality improvement methods. The lead partner is **Anderson County, TN School District** and the higher education partner is the University of Tennessee.

13. A partnership of two school districts and a major research university are implementing a professional development program, including mentoring support for twenty secondary math teachers that focus on content enhancement, NCTM teaching principles, development of open response questions, and the vertical alignment of curriculum. The lead partner is **Carter County, KY School District** and the higher education partner is the University of Kentucky.

14. A partnership of a school district and a regional state college has developed and is implementing an improved professional development program through a learning community approach with 30 elementary and 5 preservice teachers. Efforts reflect collaboration between school resource teachers, IHE faculty, district personnel, and research-based materials. The lead partner is **Letcher County, KY School District** and the higher education partner is the University of Virginia's College at Wise.

15. A partnership of a school district and two regional universities are facilitating a program of professional development and mentoring support for all seven district math teachers in grades 4-12 to identify gaps in the curriculum, implement research-based instructional strategies, and utilize data to improve instruction and assessment. The lead partner is **Owsley County, KY School District** and the higher education partners are Eastern Kentucky University and Morehead State University.

16. A partnership of two school districts, a regional community college, and a major research university have developed and implemented a professional development program for 145 regular and special ed. primary and 6 preservice teachers leading to a bank of standards-driven lessons, an aligned curricula of primary to secondary school math concepts, and parents trained in math tutoring. The lead partner is **Pulaski County, KY School District** and the higher education partners are Somerset Community College and the University of Kentucky.

17. A partnership of a school district and a major research university is facilitating a content focused professional development program for 10 elementary and middle school math teachers supporting the transition from a traditional curriculum to a hands-on approach, exploring the use of standards-based approaches at the secondary levels, and development of a workshop for students to see real world

applications of mathematical principles. The lead partner is **Washington County, KY School District** and the higher education partner is the University of Kentucky.

18. A partnership of a school district, a regional systemic initiative and a regional state college has developed and is implementing a program pairing highly-qualified, experienced teachers with local college undergraduate math/science students, including classroom instruction, collaborative development activities, and field experience to promote education careers in math and science. Eighty secondary and 48 potential preservice teachers are involved. The lead partner for this project is **Wise County, VA School Division** with assistance from the Coalfields Systemic Initiative and the higher education partner is the University of Virginia's College at Wise.

19. A partnership of three school districts, two conservation agencies and a regional state college are facilitating a program of training for science teachers on GLOBE hands-on activities and development of a GLOBE-based program where high school students, assisted by college students and partner consultants, conduct hydrology measurements and analysis of local watersheds. Thirty-seven secondary and ten preservice teachers are involved in the first year. The lead partners are **Wise County, Dickenson County, Russell County, and Scott County, VA School Divisions** and the higher education partner is the University of Virginia's College at Wise.