6065, West Noble School Corporation

PROJECT ABSTRACT

West Noble School Corporation's Learning Technologies Competitive Grant proposal has been developed to promote student achievement in math Indiana Academic Standards. Significant factors influencing West Noble's decision to focus specifically on algebra concept achievement in grades 3-9 are found in the needs section of this application.

West Noble students, teachers, and the new math/data coach will need support in multiple forms in order to achieve the goal of all West Noble students being proficient in algebra. Those forms include technologies, professional development, and personal and collaborative interactions, all of which are addressed in this proposal and described below.

Grant component:Classroom technologies in grades 5-9: mounted projectors,Interwrite Pads,screen to support student- and teacher-driven motivating interactive instruction.

Grant component:Data Room technologies in each building: projector, Interwrite pads, screen, wireless AP, laptop to support teachers' data analysis, professional development, collaboration

Grant component:Math/Data Coach to support teachers' data analysis, professional development, lesson planning, classroom instruction, collaboration

Grant component:Professional Development opportunities to support student-centered learning, best practices in math/algebra instruction, data analysis

Grant Component:Supplemental materials to complement the basic textbook and provide student-needs centered activities

Grant Component:Partnership with Wawasee Community Schools (including math coach and data coordinator)to support WN's math data coach and teachers in developing math activities and data analysis

Students need engaging student-centered mathematics instruction. The well-designed use of classroom technologies operable by either teacher or student will enhance instruction and learning. The assistance of the math/data coach will ensure that staff and students achieve proficiency in using the technologies.

Students need understanding of their mathematical needs and ownership of their math goals. Using technology to analyze student assessment data and to track progress will assist students and teachers to collaboratively develop and monitor those student-centered goals. All students in grades 3-9 will be involved, becoming more engaged in their own learning process. The math/data coach will assist teachers in this process.

Teachers need accurately analyzed data. The new West Noble math/data coach employed through the grant, assisted by our partner district's data coordinator, will provide expertise in data analysis. The technologies provided in the Professional Development Data Rooms will assist in the disaggregation and tracking of this data.

Teachers need assistance in designing student-centered engaging math lessons. The West Noble math/data coach, assisted by our partner district's math coach, will facilitate collaborative lesson planning. He/she will partner with the teacher using whatever coaching strategy is most helpful (modeling, observing, professional dialog, visits to other classrooms, etc.) The coach will research, and the grant will support, professional development opportunities both inside and outside the district that meet the needs of teachers. Teachers, with support, will learn to incorporate Marzano's instructional strategies and/or Thinking Maps in their classrooms.

Teachers need instructional materials that allow them to implement the strategies they design with their coach and peers. The grant will provide funds for those materials that will enhance student-focused engaging instruction and student learning.

The newly hired math/data coach will need the support of other coaches, provided both by the partnership with the Wawasee district and through participation in an area-wide math coaches' council. The grant will fund these activities.

The results of this project will be reflected in increased student achievement and teacher efficacy.

NEEDS/BASELINE

About 1,400 students and 37 teachers in grades 3-9 at West Noble Elementary, Ligonier Elementary, West Noble Middle School, and West Noble High school will be directly served. There will be indirect impact on students in other grades as teachers and administrators use the data centers that are created.

Last year 40% of West Noble High School's Algebra 1 students passed the state Algebra 1 End of Course (EOC) Assessment. When Fall, 2009, NWEA math results were examined at West Noble Elementary, 31% of 3rd graders and 34% of 4th graders fell more than 5 RIT points below expected levels. At Ligonier Elementary, 40% of 3rd graders and 44% of 4th graders scored more than 5 RIT points below expected math achievement levels. At West Noble Middle School, 40.5% of 5th graders, 33.2% of 6th graders, 26.3% of 7th graders and 24.6% of 8th graders scored below expected math levels.

West Noble 2009 Spring ISTEP+ scores of percent scoring at pass or pass+ levels were 3rd grade, 69%; 4th grade, 77%; 5th grade, 73%; 6th grade, 69%; 7th grade, 75%; and 8th grade,70%.

These scores show that WNSC students need to make significant improvement to achieve mastery in mathematics, particularly in the algebra strand, as do the following factors.

--Success in algebra is highlighted by the National Math Panel's 2008 Final Report as being critical to students' success in STEM college classes and careers.

--School Improvement plans from both elementary schools and the high school target improved problem solving and math achievement as primary goals. West Noble High School's plan also specifically identifies lesson design strategies as a target area for improvement and is pursuing that issue using the (Phil) Schlechty Working on the Work model.

--For the past several years the district has concentrated on language arts and reading strategies due mainly to our exceptionally large ESL population. Teachers have asked that there be a resurgence of energy toward improving math instruction, increasing student math achievement, and providing support for that effort.

West Noble School Corporation's LEA Improvement Plan cites the need to develop engaging student-centered instructional strategies in all subject areas.

West Noble will adopt new mathematics textbooks during the 2009-10 school year. Teachers will need extra support as they implement the new materials in the 2010-2011 school year. Working with a coach and using student data and technology will result in teachers having adequate knowledge and support to design student-centered engaging lesson plans from the inception of using the new texts. In other words, they will start well and have a solid base to add on in the future.

Teachers need the technical means, concentrated directed collaboration time, and the expert support (mentoring/coaching) to understand their students' mathematical needs and to plan and implement effective curricular and instructional changes to address those needs.

GOALS/OBJECTIVES

Students will demonstrate their improved mathematical understandings and skills in these ways:

--NWEA scores will reflect that all students are within five RIT points of or are above their expected grade level RIT within three years.

--ISTEP+ scores - students in grades 3-8 will score a pass or pass+ at the rate of 80% in year one, 85% in year two, 90% in year 3, 95% in year four, and approach 100% in year five.

--Algebra 1 End of Course Assessments will reflect a 10% improvement rate each year until approaching 100%.

These goals mirror those found in WNSC's LEA Improvement Plan, 2009, and address the math goals in the various School Improvement Plans.

Students will set NWEA target goals with their teachers, will review those goals during the year and will document their own progress toward those goals. This will increase students' ownership of their learning and motivate them to grow and experience success.

Teachers will purposefully design student work to create engaging, developmentally appropriate, student-centered classroom activities. Real world multi-step problems will be developed for both group and individual work. Math teachers in grades 3-9 will be trained in Marzano's Classroom Instructional Strategies and/or Thinking Maps.

Teachers will receive extra support as they implement newly adopted mathematics materials and newly developed curriculum guides. Supplementary materials will be selected and used to support the core materials as teachers plan for differing student needs.

Teachers will be confident users of technologies to analyze data, to locate math instructional resources, and to instruct students in the classroom. Teachers will use data to target their instruction and to create flexible groupings to address specific needs.

Teachers and coaches will jointly develop rubrics to gauge progress and to provide on-going support after one year of a having a grant-funded coach.

METHODS/ACTIVITIES

All four West Noble Schools will create Professional Development Data Centers in each school which have the technology for teachers to efficiently and collaboratively analyze the collected data about students' mathematical understandings and skills leading to proficiency in algebra. The data center will become the hub for professional development that is driven by student needs. It will be a place where student achievement is tracked and is visually represented for all teachers.

Both teachers and students will learn to understand student ISTEP+ and NWEA data in new student-centered ways. Teachers will help students develop goals for improving their mathematical understanding and skills through data analysis; so students will feel ownership for their own learning.

In the data center, teachers will investigate best mathematical practices from published research and by electronically dialoging with other proficient practitioners across the state. The information gathered by the data and research will inform mathematics instructional activities in the district. One of the tools they will use for this purpose is IDOE's Learning Connection.

West Noble will hire a math/data coach for one year. The coach will have multiple roles that involve teachers, technology, and mathematics instruction in grades 3-9.

The coach will facilitate grade 3-9 mathematics teachers' professional development. The coach may model, observe, co-teach, and/or videotape in classrooms. The coach will help find workshops or other professional development opportunities within and outside the district. Registration and mileage for workshops as well as substitute teacher pay will be paid by the grant.

Part of the coach's job will be to assist teachers in developing appropriate instructional strategies and finding materials to implement the initiatives that they've determined will increase student learning. He/she will appropriately assist each teacher and grade level teams of teachers in improving their mathematical instructional strategies to increase engagement and student learning.

Teachers will receive extra help during the 2010-2011 school year as they implement their new math textbook adoption materials and curriculum guides. When the teachers and coach agree on materials that will supplement the newly adopted textbook and support engaging learning activities, the grant will help purchase those materials.

The coach will ensure that classroom teachers are confident in using classroom technologies and are employing them to the most effective advantage. The data/math coach will also be responsible to ensure that West Noble teachers have an easy to use and understand data analysis system in place that they can use independently after the project's conclusion.

The methods and activities are cyclical in nature: teachers and students, aided by the math/data coach:

Analyze data--understand needs--strategize effective learning practices--learn new skills, as needed--implement strategies with support--assess student progress--and continue the cycle.

PROFESSIONAL DEVELOPMENT

Multiple means of and sources for professional development will be utilized through the Learning Technologies Grant funding.

-- The West Noble and Wawasee math/data coaches will guide teachers in understanding the various math data already available to them: primarily ISTEP+ and NWEA.

-- The math/data coaches will guide teachers in grouping and instructional practices based on that data.

-- The math/data coaches will provide resources that will inform math teachers about best practices in mathematics instruction and assist them to make materials selections and lesson plan decisions that are supported by that research. Marzano's instructional strategies and Thinking Maps are two instructional models about which teachers will learn.

-- The math/data coaches will observe, model, engage in professional dialog, and facilitate visits to other classrooms, etc., serving as coaches/mentors to grades 3-9 mathematics teachers.

-- The math/data coaches will model effective use of classroom technologies to support engaged student learning.

-- Math/data coaches will be supported by participating in the All Write!!! consortium math coaches' meetings and other professional development activities to enhance their skills as coaches.

-- Teachers and coaches will benefit from lesson plans, discussion groups, and other activities connected with IDOE's Learning Connection.

-- Wawasee's veteran data coach and math coach will support West Noble's novice math/data coach with collaborative projects, onsite visits, etc.

The following flow chart will show: Target Audience -- Type of Activity -- Facilitators -- Timeframe

Math/data coaches -- Consortium math coaches' meetings & WNSC coaches' council -- Consortium math coaches & WNSC administration -- monthly as soon as coach is selected (spring, 2010)

Math/data coaches -- Collaborative planning and learning -- Self (coaches together), Region 8 ESC, Professional Conferences & Workshops -- When WN's coach is selected and monthly through the 2010-2011 school year

Math teachers 5-9 -- Classroom technology training -- Math/data coaches, technology staff and company rep's -- Starting in Spring of 2010, or when technology is available

Math teachers 3-9 -- Data analysis -- Math/data coaches, technology staff -- Starting Fall,2010 continued to Fall, 2011

Math teachers 3-9 -- Marzano Instructional Strategies training & Thinking Maps Training -- WN internal trained coaches -- School year 2010-2011

Math teachers & coaches -- Collaborative planning, learning, and sharing -- IDOE's Learning Connection, coaches -- School year 2010-2011

Math teachers & coaches -- Development of rubrics for program evaluation -- Learning Connection, coaches -- School year 2010-2011

Teachers -- Coaching activities: observation, modeling, co-teaching, video taping, professional dialogue, etc. -- Coaches -- School year 2010-2011, weekly

FORMATIVE/SUMMATIVE EVALUATION

Progress toward goals will be monitored at the local level in the following ways:

Type of Data: NWEA Math Assessments - % on or above appropriate RIT level, grades 3-8;

Methods & Responsibilities: Math/data coaches collect data and meet with teachers, principals, curriculum director, and superintendent. Districts share data;

Timeline: Baseline data from Spring, 2010. Follow-up data from Spring, 2011 and each Spring following.

Type of Data: ISTEP+ Assessments - % passing math, grades 3-8;

Methods and Responsibilities: Math/data coaches collect data and meet with teachers, principals, curriculum director, and superintendent. Districts share data;

Timeline: Baseline data from Spring, 2010. Follow-up data from Spring, 2011 and each Spring following.

Type of Data: Algebra I End of Course Assessment, grade 9;

Methods and Responsibilities: Math/data coaches collect data and meet with teachers, principals, curriculum director, and superintendent. Districts share data;

Timeline: Baseline data from Spring, 2010. Follow-up data from Spring, 2011 and each Spring following.

Type of Data: Teacher technology implementation;

Methods & Responsibilities: Rubric devised by math/data coaches, along with teachers, to measure improvement in ability to use (pre- post-);

Timeline: Fall, 2010 and Spring, 2011.

Type of Data: Engaging math instruction/new math instructional strategies;

Methods & Responsibilities: Rubric self-assessment completed by teachers and math/data coaches to evaluate implementation level of instructional strategies and plan additional professional development;

Timeline: Spring, 2011.

LOCAL MATCH

$158,224

Local matching funds will be leveraged to support the program proposed in this application.

West Noble will supply the technology equipment in the high school classrooms, a dedicated data location in each building, the training time of an in-house Marzano Instructional Strategies coach, the training time and cost of Training for Thinking Maps trainers, the cost of NWEA assessments, the cost of All Write!!! Consortium membership, the time of its Superintendent and Director of Curriculum and Instruction to support and monitor the program.

WNSC Funding Source	Funding Use	Approximate Value
Capital projects funds	classroom technology in h.s. Algebra classrooms	$4350
Capital projects funds	Data rooms in each building	$1288
Common school loan	TV's, mounts, cabling for data rooms in each building	$4700
Dekko Grant	Marzano Instructional Strategies coach's time	$14095
Dekko Grant	Thinking Maps training	$2200
General Fund	NWEA assessments	$21747
General Fund	All Write!!! (Math Coaches Consortium) dues	$3000
General Fund	Administrative time	$41219

Wawasee will supply a portion of the technology equipment in numerous middle school and high school math classrooms, the salary and benefits of its Data Manager/Coach (calculated as .25 of his time), the dedicated data center space, the time of its Superintendent and Director of Curriculum and Instruction, the cost of All Write!!! Consortium membership.

WCSC Funding Source	Funding Use	Approximate Value
Capital projects funds	classroom technology in some middle and high.school math classrooms	$28,400
Capital projects funds	Data room in each building	$18,000

Capital projects funds	Data manager/coach	$11,225
General Fund	Administrative time	$5,000
General Fund	All Write!!! (Math Coaches' Consortium) dues	$3,000

For West Noble, the estimated local matching fund total is $92,599.

For Wawasee, the estimated local match fund total is $65,625.

Together the two districts have spent or allocated about $158,224 toward this project.

PARTNERSHIPS

West Noble School Corporation will partner with Wawasee Community Schools. Wawasee is a neighboring district that shares many common factors with West Noble. We have used the same basic textbook and supplemental program for 12 years. We use the same assessments, and have similar test results, needs for reviewing data, retraining teachers and finding and implementing strong mathematics instructional strategies.

Wawasee, however, employed a temporary part-time math coach in its district during the 2009-10 school year. This grant will ensure continued funding for that position during the 2010-2011 school year, and that teacher will serve as a mentor to West Noble's new math/data coach.

Wawasee's coach will meet monthly with West Noble's instructional coach to discuss coaching strategies, use of technology in the classroom, and sharing materials that increase student engagement and student learning. Wawasee's instructional math coach is a veteran teacher who has been working with teachers in classrooms on engagement strategies. She also uses a Qomo tablet regularly in her classroom and works with teachers who use SmartBoards in their classrooms. Both coaches will meet with a larger instructional math coaching group from area school corporations that meet one time per month during the school year to share ideas. This coaching group is made up of instructional math coaches from members of the All Write!!! Consortium.

Additionally, Wawasee will continue to employ a veteran data coordinator who will, with this grant, spend part of his time working with West Noble staff. Wawasee's data coordinator will work with West Noble's data/math coach to help him/her break down math assessment data. He will also be available for several days of training to work with West Noble math teachers to analyze math assessment data.

About 1,815 students in grades 3-9 at North Webster Elementary, Syracuse Elementary, Milford Elementary/Middle School, Wawasee Middle, and Wawasee High School will be directly served with the money from this grant. Besides funding their math coach, Wawasee plans to spend its grant money to provide the same kinds of classroom technologies for their secondary level mathematics classrooms that West Noble does. Their data coordinator and math coach, with the math teachers, will analyze data and develop engaging instructional strategies for students in a similar fashion to West Noble's plan.