

**AN EVALUATION
OF THE MATHEMATICS AND SCIENCE
PARTNERSHIP GRANT
TO HAMPTON, S.C.
SCHOOL DISTRICT ONE
(Teacher Evolution to Advance Math and
Science, or TEAMS, Project)**

PREPARED FOR HAMPTON SCHOOL DISTRICT ONE

BY

SYSTEM WIDE SOLUTIONS, INC.

George W. Appenzeller, MSW

Malia Howell

Sarah Meadows, MSW

Tiffany Powell

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Rhonda A Willis
Kristy Wood
Amy Threatt
Keanna Alewine
Violet Salisbury
Terri Stanfield
Jacque Hatfield
Rachael Phillips
Robin Hiers
Julie Huber
Dawn Smith
Dawn Stuckey
Mysti Long
Mary French
Robin Taylor

EXECUTIVE SUMMARY

Hampton County (SC) School District 1 received a Mathematics and Science Partnership Grant from the SC Department of Education in August 2010. These grants are intended to improve the mathematics and science outcomes for students by improving the abilities of mathematics and science teachers. The goal of this project is to raise student achievement in mathematics and science by reforming teachers' thoughts and habits in the classroom to value and embed research-based best practices in their instruction. The strategies being used are: professional development; teacher created action plans for reforming instruction; training and supporting Master Teachers; support and feedback provided by Master Teachers. The project is known as Teacher Evolution to Advance Math and Science (TEAMS). This evaluation is the third in a series and covers the period October 1, 2012-September 30, 2013.

A method used in the TEAMS project to meet its objectives is to improve teaching of math and science through application of the Cognitive CoachingSM model. Cognitive CoachingSM applies a solution focused approach to adult learning using trained coaches who assist teachers and is designed ultimately to change the approach of entire organizations to teaching and learning.

The process of the grant can be divided into three parts. The first part is the professional development of classroom teachers on both content and process of teaching math and science. The second is the support of Master Teachers to conduct the Cognitive CoachingSM model. The third is the implementation of the Cognitive CoachingSM model in the schools among the classroom teachers.

The purpose of the current evaluation is to provide information that will assist the project staff in meeting the goals of Project TEAMS and in assuring the continuing improvement of the project. Both the process of implementation and the outcomes of the program will be reported on in the evaluation. The areas covered in the implementation section will be the four process objectives, as measured by the performance measures stated in the grant proposal. The outcomes of the program will be reported on through the two outcome objectives, as measured by the performance measures stated in the grant proposal. There were 90 teachers served by the project during the year. Of these about 71% are primary, elementary and special education teachers, with 8% teaching middle school and 21% teaching high school. These teachers serve 2,491 students, about 55% of whom are African-American and 63% of whom receive free or reduced meals. About 12% have a special need or are on an Individualized Education Plan (IEP).

All of the activities/subactivities planned for the grant were conducted, often beyond what was required. It should be pointed out that there was 100% success in providing the training and graduate course called for in the grant proposal. In addition, 100% of active teachers completed action plans with reflections. Of some concern are the demands being placed on the master teachers at a time of great change in the district and the state education system. These demands are having an impact on their perception of their ability to carry out all their functions. During this year, these demands were addressed and changes were made to assist the master teachers to the extent possible.

The master teachers are universally admired by other teachers for the work they are doing. It is also apparent that the district and school level staff, as well as the teachers, are taking the project very seriously and implementing the project to a greater degree than what was originally envisioned. That is clear from the fact that three of the process performance measures were exceeded and one was met.

The success of the grant in improving outcomes was strong, with outcome measures being met, exceeded or almost met. The District met its goal of an increase of 3% improvement annually in grade level achievement on the math PASS test. The District progressed toward but did not meet its goal of 3% improvement annually in grade level achievement on the science PASS test; the increase was substantial, averaging over 2% annually. The District exceeded its goal of increasing the percentage of students who pass the Math HSAP and Biology EOC by 3%; however, the District did not meet its goal of increasing the percentage of students who pass the Algebra EOC.

There appears to be an overall improvement in attitudes about, greater knowledge of, and increased use of best practices and technology in science and math instruction; however, it is difficult to determine how many teachers have actually improved. Therefore, the District has progressed toward but did not meet this goal.

The report concludes that: the process performance measures of the grant were met or exceeded; the outcome performance measures of the grant were met, exceeded or progress was made towards meeting the measure; the project has been well administered and the Master Teachers and classroom teachers are enthusiastic about the TEAMS; and the TEAMS concept is being rapidly integrated into the District's teaching methods.

The report recommends that: The evaluation design be modified to a quasi-experimental design to assist the District in determining which of the professional development offerings have been most successful and should be continued; a method be developed by the evaluators in conjunction with the District to analyze and interpret the teacher survey.; and the District continue to strongly support the MSP project.

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INTRODUCTION

The Purposes and Goal of the Grant

Hampton County (SC) School District One received a Mathematics and Science Partnership Grant from the SC Department of Education beginning in September 2010. The present evaluation covers the period of October 1, 2012- September 30, 2013, the third year of the grant. These grants are intended to improve the mathematics and science outcomes for students by improving the teaching capabilities of mathematics and science teachers. Hampton School District One proposed accomplishing this by a systemic change in mathematics and science classrooms through a program named Teacher Evolution to Advance Math and Science (TEAMS). The goal of this program is to raise student achievement in mathematics and science by reforming teachers' thoughts and habits in the classroom to value and embed research-based best practices in their instruction. The TEAMS concept is based on four process objectives and success is to be measured through two outcome objectives. The process objectives are:

1. Professional development provided by institutes of higher learning across all grade levels in mathematics and science
2. Teacher created action plans for reforming instruction
3. Training Master Teachers
4. The support and feedback provided by Master Teachers

The outcome objectives are:

1. Improved student achievement in mathematics and science
2. Improved attitudes about, greater knowledge of, and increased use of best practices and technology in science and math instruction

In all, Project TEAMS is intended to serve 88 Hampton District One teachers and 2,670 students in seven schools in rural Hampton County.

In addition, the grant seeks to meet the GPRA measures established by the federal government for these grants. These are:

1. GPRA Measure 1: The percentage of teachers who significantly increase their content knowledge in mathematics and science, as reflected in project-level pre-and post-assessments.
2. GPRA Measure 2: The percentage of students in classrooms of MSP teachers who score at the basic level or above in State assessments of mathematics or science.
3. GPRA Measure 3: The percentage of students in classrooms of MSP teachers who score at the proficient level or above in state assessments of mathematics or science.
4. GPRA Measure 4: The percentage of MSP projects that report using experimental or quasi-experimental design for their evaluations.

5. GPRA Measure 5: the percentage of MSP projects that use experimental or quasi experimental design for their evaluations that are conducted successfully and that yield scientifically valid results.

The TEAMS Method

A method used in the TEAMS project to meet its objectives is to improve teaching of math and science through application of the Cognitive CoachingSM model. Cognitive CoachingSM applies a solution focused approach to adult learning using trained coaches who assist teachers and is designed ultimately to change the approach of entire organizations to teaching and learning.

Coaches must be non-judgmental, in order to encourage reflective practice and to support others to self-directed learning. To encourage reflection, cognitive coaching focuses on a teacher's thinking, perceptions, beliefs, and assumptions and how these affect practices. A cognitive coach collects data and learns to pose questions to engage the teacher in reflective thinking. According to Costa and Garmston, the developers of Cognitive CoachingSM, a cognitive coach "...uses tools of reflective questioning, pausing, paraphrasing, and probing for specificity." A cognitive coach helps another person "to develop expertise in planning, reflecting, problem-solving, and decision-making. These are the invisible tools of being a professional, and they are the source of all teachers' choices and behaviors." A cognitive coach must be able to work effectively with different personality types, different learning styles, different philosophies, and different stages of a teacher's development.

The design for the TEAMS project is that the Lowcountry S²TEM Center would train nine Master Teachers as Cognitive Coaches and would support these teachers as they began to coach the science and math teachers in Hampton District 1. The Master Teachers would also be formed into a support group, led at first by an outside consultant, but which would become self-directed over time. The Master Teachers would each provide coaching to their assigned teachers within their own schools. Work with the coaches and the teachers would begin with planning, which is the first of the three "maps" of Cognitive CoachingSM.

Teachers would also receive professional development to improve their content knowledge and technical skills. Technology would be provided that has not been provided before to allow teachers to communicate with one another, to gain access to more resources and to receive technical assistance and training via the internet.

Purpose and Contents of the Evaluation

The purpose of the evaluation is to provide information that will assist the project staff in meeting the goals of Project TEAMS and in assuring the continuing improvement of the project.

Process Evaluation

The process of implementation of the program will be reported on in the evaluation. The areas covered in this section will be the four process objectives, as measured by the performance measures stated in the grant proposal.

Outcome Evaluation

The outcomes of the program will be reported on in the evaluation. The areas covered in this section will be the two outcome objectives, as measured by the performance measures stated in the grant proposal.

GPRA Measures

The GPRA measures will be reported as they are stated in the Federal reporting system, along with additional information that may be of help in continuing quality improvement.

The TEAMS Project is designed ultimately to bring permanent change to the teaching of mathematics and science in Hampton County School District One. Among the changes that will be products of the project are:

- Reasonable progress will be made towards 100% of mathematics/science teachers meeting the SC definition for highly qualified in mathematics or science by offering additional college credit hours, increasing content knowledge through aligned activities designed to improve teachers' understanding of grade-level standards, and by supporting teachers' successful performance on the content area ADEPT teacher evaluation system.
- Activities provided through the partnerships will create reasonable progress toward aligning 100% of instructional materials and practice to the SC Mathematics and Science Standards.
- TEAMS will raise student achievement and reform math and science education by replacing traditional thought and outdated classrooms with innovative thought and relevant, engaging, content-rich classrooms.
- All professional development activities provided by the S²MART Center, the Citadel, USC-Aiken, Invent Now, and HD1 will have teachers experience the same research-based best practices that they will use to meet students' needs and to raise student achievement.

METHODOLOGY

Introduction

System Wide Solutions, Inc. was asked in early August 2011 to evaluate the TEAMS grant, and an agreement was signed on August 17, 2011. An evaluation design was in place from the original grant proposal. The design included formative research and pre- and post-professional development-tests only and other one-time data collection methods. The design is essentially a descriptive-exploratory design. SWS modified the design to include all measurements that had occurred, additional data available from another long-term evaluation project which includes data on all district students, and additional individual and group interviews. After the initial first year evaluation was completed, SWS re-directed the evaluation to a one-group design for the second year and third years.

Philosophy of the Approach

SWS is using an action research approach to conduct this evaluation. As described by Greenwood and Levin in *Introduction to Action Research: Social Research for Social Change* (1998), action research involves the professional researcher working with the members of an organization and community to improve a situation. Action research (or, in this case, evaluation) means that information developed by the evaluator is used by the organization and community to change their activities and objectives as they go along to make it more likely that the goals of the project will be achieved. In action research, the evaluator is part of the process, whereas in traditional evaluation, the evaluator stands outside of the process. In the current project, it is hoped that Hampton District 1 will be able to use the findings of the report to continue to improve upon the goals and objectives of the District embodied in the MSP project.

Phases of the Evaluation

Phase 1 – Preparation for Data Gathering

In this phase, the grant application was reviewed, with a particular emphasis on the goals, objectives, outcomes and activities of the project. The evaluation design of the project was reviewed and questions regarding availability of data, key informants and access to qualitative information prepared.

The GEMS® online information system was modified to collect the necessary information related to trainings and professional development provided through the grant. Partners were provided access to the GEMS® and training on how to use the system to enter information related to the specific trainings they provided. Users have access only to their own data, or, in the case of administrators of the project, to the project's data.

Phase 2 – Gathering and Reviewing Information

Information gathering occurred in five stages. The first stage was a meeting with the project director and the Director of Special Projects for the District. In this meeting, based on Phase One, the data needs and availability of the information were discussed and a plan created.

The second stage was to request the data and qualitative information which was available at the district level from the appropriate individuals. This information was made available over time. In some instances, the information was not available and other information was substituted to replace that from the original plan.

The third stage was to monitor the data being entered into the GEMS®, make adjustments as necessary and to provide special reports or feedback to the project. These actions were followed up with telephone interviews with partners and members of the project management team.

The fourth stage was to conduct a series of interviews, each building on the previous set of interviews. First to be interviewed were the S²MART (now S²TEM) Center personnel who provided the training/coaching to the Master Teachers in Hampton. The interview schedules for these interviews were built on the objectives and activities in the grant proposal. Building on results of these interviews, interview schedules were prepared for the Master Teachers. Following the interviews with the Master Teachers, interview schedules were prepared and interviews conducted with a representative sample of teachers. (See Appendix One for interview schedules.) Interviews also were conducted with personnel from the Citadel.

The fifth stage was to access the standardized test score data for Hampton School District One for the period under study. Standardized test score data (PASS, HSAP and EOCEP) for Hampton SD One was provided by the district. This was followed by a final stage of reviewing what information was now in the database for the evaluation of the project and requesting any missing information from the district.

Phase 3 –Preparation of the Information and Data

The qualitative information gathered was placed in a single qualitative database for analysis. The quantitative data was exported from Microsoft Access into the Statistical Packages for the Social Sciences (SPSS) for analysis. Tables and Graphs describing the outcomes were developed in Microsoft Excel and exported to Microsoft Word.

Phase 4 – Analysis of Information and Data and Development of the Report

In developing the report, the following steps were conducted:

1. The evaluation team achieved consensus on:
 - *What Happened?* (Findings of the Study) What activities and actions took place during the grant period?

- *So What?* (Conclusions of the Study) What meanings do the activities and the actions have in terms of the goal and objectives of the project and the expressed desires of the participants? To what extent have the aims of the project been achieved? Which activities were most successful? Which could be improved upon?
 - *Now What?* (Recommendations of the Study) What changes and additions does the evaluation team believe might be useful in advancing the goals of the project?
2. The sections of the report were assigned to different team members for drafting and all team members edited the report.
 3. The final report includes a description of the grant and its goals and objectives; implementation findings; findings of progress toward the project goals and objectives; a discussion of the findings of the evaluation, including trends and themes; the conclusions; and the recommendations. This resulted in a detailed, written documentation of the progress of the grant and possible implications for the future of similar projects.

Organization of the Evaluation

The evaluation is organized into six parts.

- Introduction
- Methodology
- Process findings
- Outcome findings
- Discussion
- Conclusions and recommendations

FINDINGS PART I: PROCESS EVALUATION

Introduction

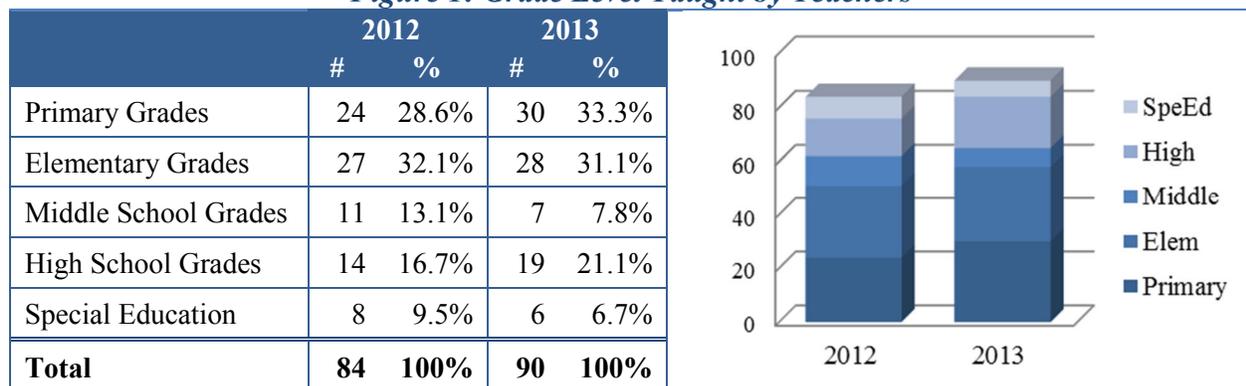
The process evaluation reports first on the numbers and makeup, to the extent possible, of the teachers and students served by the grant. It then reports on the implementation of the project by examining the planned activities of the grant proposal. This is followed by information on progress made toward meeting the performance measures for the four process objectives. Finally, this section reports on several performance measures mentioned in the proposal but not included under a specific objective.

Teachers Served

In 2009-2010, the year which will serve as the baseline year, 7.6% of the classes in high poverty schools were not taught by highly qualified teachers, 57.9% of teachers in Hampton School District One had an advanced degree and 4.3% of teachers had an emergency or provisional certificate. These percentages are in line with other similar districts within the state. On average, the 195 teachers (all subjects) participated in 19.5 professional development days each year. In 2010-2011, which was year 1 of the grant, 14.8% of the classes in high poverty schools were not taught by highly qualified teachers and 60.6% of teachers in Hampton School District 1 had an advanced degree. On average, the 175 teachers (all subjects) participated in 11.8 professional development days each year.

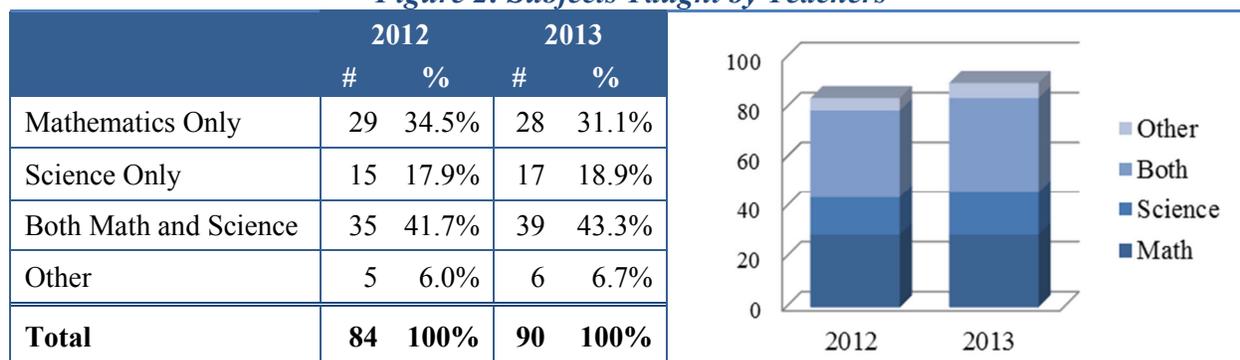
Of the 84 math and science teachers served by the District during the 2011-2012 school year, 24 (28.6%) teach students in grades kindergarten through second (primary), 27 (32.1%) teach students in grades third through fifth (elementary), eleven (13.1%) teach students in grades sixth through eighth (middle), 14 (16.7%) teach students in grades ninth through twelfth (high), and eight (9.5%) teach students in special education (all grade levels). Of the 90 who participated in 2012-2013, 30 (33.3%) teach primary grades, 29 (31.1%) teach elementary grades, seven (7.8%) teach in middle school, 19 (21.1%) teach in high school, and six (6.7%) teach special education classes. (See Table 1 and Figure 1.)

Figure 1: Grade Level Taught by Teachers



Of the 84 classroom math and science teachers served by the District in 2011-2012, 29 (34.5%) teach only math, 15 (17.9%) teach only science, 35 (41.7%) teach both math and science, and five (6%) teach other subjects. Of the 90 classroom math and science teachers served by the District in 2012-2013, 28 (31.1%) teach only math, 17 (18.9%) teach only science, 39 (43.3%) teach both math and science, and six (6.7%) teach other subjects. (See Table 2 and Figure 2.)

Figure 2: Subjects Taught by Teachers



Students Served and Their Demographics

During the 2009-2010 school year, the attendance rate for students was 95%, the retention rate was 4.6%, and 5.7% of students were older than usual for their grade. The annual dropout rate was 5.5% and the four year cohort graduation rate was 65.3%. During the 2011-2012 school year (the most recent year for which data is available), the attendance rate for students was 96%, the retention rate was 3.8%, and 4.4% of students were older than usual for their grade. The annual dropout rate was 2.5% and the four year cohort graduation rate was 74.1%.

During the 2011-2012 school year, there were approximately 2,493 students enrolled in seven schools in Hampton School District 1. Hampton School District One has two primary schools (grades PK-3), three elementary schools (two schools grades K-6 and one school grades 4-6), one middle school (grades 7-8), and one high school (grades 9-12). About half of the students in the district (54%) are African American, 44% are Caucasian, and 2% are of other races. The majority of the youth receive free (64%) or reduced (9%) meals, and 12% have a special need or are on an Individualized Education Program (IEP).

During the 2012-2013 school year, there were approximately 2,491 students enrolled in seven schools in Hampton School District 1. Hampton School District One has two primary schools (grades PK-3), three elementary schools (two schools grades K-6 and one school grades 4-6), one middle school (grades 7-8), and one high school (grades 9-12). About half of the students in the district (54.6%) are African American, 43.5% are Caucasian, and 1.9% are of other races. The majority of the youth receive free (63.4%) or reduced (9.2%) meals, and 12% have a special need or are on an Individualized Education Program (IEP).

Activity 1: Professional Development for and Support of Master Teachers

SUBACTIVITY A

Lowcountry S²MART Center will provide ongoing coaching support.

The master teachers continue to receive telephone and face-to-face technical assistance from the S²MART Center. During the 2012-2013 grant year, eight master teachers participated in 48 hours each of Cognitive Coaching support from the S²MART Center. The master teachers also participated in a total of 63 hours each of monthly master teacher meetings to provide support and coordination.

The master teachers place a great deal of value on their once a month peer supervision and collaboration meetings, which they see as critical to their development as a group and as a means for sharing successful methods. The master teachers have developed a common vision of a shared community of mutual support among all STEM teachers across the District.

The largest difficulty the master teachers face is the dual nature of their jobs, classroom teacher and master teacher. A general agreement that paperwork demands were unreasonable, especially documenting their detailed daily time diary. Several of them, in addition to classroom teacher and Master Teacher, have been also given “other special roles,” such as school TAP coordinator. There was a recurring theme from prior years on juggling roles, in essence having “two full-time jobs.”

The master teachers want to continue teaching in their own classrooms. In fact, they believe this is essential to their ability to remain in touch with the needs of students and other teachers. However, the master teacher and other non-instructional duties keep them out of the classroom one or two days a week. Substitute teachers take their place, but they feel they are not paying enough attention to their own students. They feel they are pulled between their duties as a master teacher and a classroom teacher. They are stretched to do too many things, and in some instances they believe the test scores for their own students have fallen as a result. The evaluators believe they are being asked to do too much.

Classroom teachers also saw that Master Teachers were caught between their duties as master teachers and classroom teachers. “Helping kids in other classrooms hurts kids in master teacher’s classroom.” There are too many demands on Master Teacher’s time that have nothing to do with being Master Teacher or classroom teacher.

In addition there is a conflict between TAP (which is a more prescriptive, technocratic and competitive approach) and Cognitive Coaching (which is a more professional development and collaborative approach).

Activity 2: Master Teachers will Support Teachers

SUBACTIVITY A

Support for math and science teachers as they implement new strategies and increase content knowledge.

The classroom teachers perceived the master teachers as providing the following support:

- Helping them collaborate on lesson plans and strategies
- Helping with common curriculum standards
- Providing materials
- Providing expertise and classroom visits
- Clarifying goals
- Helping them get their thoughts together
- Proving a calming effect
- Helping to use technology
- Providing expertise and planning help
- Helping with teaching style
- Providing collaboration on lesson plans and strategies

In addition, master teachers reported that:

- Support was provided by the master teachers on preparing for the new Common Core Standards.
- The master teachers helped in developing benchmarks for project-based learning.
- The master teachers helped classroom teachers learn how best to use the data from testing to develop individualized plans for students.
- The master teachers provided science kit training
- The master teachers secured classroom materials for teachers.
- Master teachers provided expertise on particular subjects.
- Master teachers serve as models for critical questioning so that teachers can evaluate themselves and evaluate their own work.
- Master teachers supported classroom teachers as they developed their lesson plans and action plans.

SUBACTIVITY B

Need-based professional development based on observations and teacher requests.

The master teachers provided individualized support to classroom teachers throughout the year. The specific supports most often mentioned by teachers include:

- The master teachers are a resource for ideas for specific teaching situations
- The master teachers help teachers learn how to use technology in the classroom
- The master teachers videotaping of the teachers while they taught, and then downloading it for viewing by the teachers so they could see how they did things themselves without anyone else having to critique them directly. The teachers found this helped them reinforce the effective and correct the ineffective.
- The methods provided by the master teachers have helped classroom teachers learn to think about the way they teach, not just about the content.
- The master teachers are available for collaboration on lesson plans and strategies as needed.
- When asked to, the master teachers come into the classrooms to offer an unbiased sounding board.
- The master teachers provide unbiased feedback.
- The master teachers help classroom teachers clarify goals.
- The master teachers help with planning by asking the right questions and teaching the classroom teachers how to ask themselves the right questions.

Master teachers provided a total of 1,668.3 hours of observation, consultation, planning support, and training to the other 82 teachers in the district for an average of 20.3 hours of additional professional development and support per regular classroom teacher.

SUBACTIVITY C

Host vertical team meetings every other month on early out days.

Vertical team meetings are held at least every other month and are a key part of the community building/mutual learning/mutual planning process. The meetings are facilitated by the master teachers, but are highly participatory. The master teachers have helped the classroom teachers learn about networking and helping one another and how to ask and answer one another's questions. The guided planning conducted by the master teachers is gradually creating a schedule common across schools, which is very helpful in coordination and cooperation. In addition, the vertical team meetings have provided specific skills and knowledge to the teachers.

SUBACTIVITY D

Develop learning communities within schools and across the district.

The master teachers are building a community of teachers and an atmosphere of cooperation and collaboration among and across schools to exchange information and ideas. Classroom teachers see the master teachers as leaders in this learning community and turn to them for guidance in implementing changes in policy as well as this exchange of information.

Teachers are embracing the new techniques of how to learn to do a better job by learning from one another. The states of mind about how to learn how to teach are changing across the

District. The master teachers don't always use the approach from the original training. Rather, they hold a conversation with the teachers. They often learn from the teachers and teachers learn from one another. Master teachers are often mediators among the teachers. Knowledge is passed from teacher to teacher with master teachers) facilitating that process.

SUBACTIVITY E

Teachers will modify action plans

Action plans are now being completed in a routine manner and being reviewed and modified as necessary. The work done during the first two years of the grant was successful in routinizing this process. Eighty eight teachers (100% of those available to develop plans) were reported to have completed or improved upon their action plans for an average of 10 hours per teacher.

Activity 3: Graduate Staff Development Opportunities Provided

SUBACTIVITY A

Summer course(s) for graduate credit

There were six graduate courses undertaken by math and science teachers during 2012-2013. These included: University of South Carolina Algebra; University of SC – Columbia Project Lead the Way (PLTW) Affiliate - Principles Of Engineering (PTE-POE); Understanding Measurement and the Common Core State Standards in Mathematics from the University of South Carolina-Aiken; Greenwood Genetics Center Biology 610; Roper Mountain Science Plus Institute; and Special Education Master's program course. This is in addition to the Citadel Four Day Summer Institute and it's follow-up activities and higher educated associated professional development provided through HSD1 described below.

Twenty-two teachers received 60 continuing education credit hours and three graduate credit hours for their participation. One teacher received 30 continuing education credit hours and two graduate credit hours.

SUBACTIVITY B

Making math and science fun

The purpose of this standards based course is to enhance K-6 teacher content knowledge in science and mathematics and to provide instructional and assessment strategies that make science and math fun and informative for their students. There were several graduate courses undertaken by math and science teachers during 2012-2013 that included these topics: Algebra, Measurement, Probability & Statistics, Problem Solving, Reasoning & Proof, Technology,

Scientific Inquiry, Physical Science, Life Science, Earth Science, and Technology. The instructor was Gary J. Senn, PhD - Associate Professor, Director at USC Aiken. Seven teachers received 60 continuing education credit hours.

SUBACTIVITY C

Middle school math camp

This was a Summer District Professional Development sponsored by USC Aiken and was only offered during year one (summer 2011).

Activity 4: Invent Now, Inc. will provide staff development for Club/Camp Invention

SUBACTIVITY A

Inventors Hall of Fame training

On January 17, 2013, 22 math and science teachers received seven hours of professional development provided by Invent Now's STEM Center in Canton, Ohio. This event taught the teachers how to use the curriculum and engage students in inquiry-based and project-based learning in cross-curricular activities.

SUBACTIVITY B

Implementation of Club Invention in 30 classrooms

During 2012-2013 an additional 17 teachers engaged in job-embedded professional development teaching inquiry-based lessons in their science classrooms during the school year. The lessons included math topics of Geometry, Measurement, Problem Solving, and Reasoning & Proof, and science topics of Scientific Inquiry, Physical Science, Physics, and Technology. This provided 38 hours of professional development, which along with the original Invent Now training totaled 45 hours of continuing education.

SUBACTIVITY C

Camp Invention (ongoing PD)

During 2012-2013 HD1 Master Teachers provided more inquiry-based hands-on professional development. Five teachers attended this event. This professional development explores

teaching methods that help to develop critical thinkers and creative problem-solvers. The experience allows educators to build STEM skills, while emphasizing teamwork, innovation, systems thinking and self-directed learning. This provided 38 hours of professional development, which along with the original Intent Now training totaled 45 hours of continuing education.

Activity 5: The Citadel will provide a 4-day Summer Institute

SUBACTIVITY A

Online and Telephone Support and classroom visits to teachers from summer 2012

The Citadel Military College of South Carolina provided online and telephone support as well as classroom visits to teachers from the summer 2012 institute. The ten teachers from this institute conducted approximately 11 hours each of job embedded training during this process.

SUBACTIVITY B

Evaluative feedback to teachers from summer 2012

The Citadel Military College of South Carolina provided two follow-up PD days for teachers who attended the summer 2012 institute. These events were eight hours each. During the workshops, the ten teachers reflected upon the lessons they had learned during the year and instructors assessed the effectiveness of teachers' projects.

SUBACTIVITY C

4-day Summer Institute Summer 2013

Project-Based Learning was direct instruction of Scientific Inquiry and Technology. This was a four day event with a one/half day follow up which took place at the Lowcountry ACE Basin Project-Based Learning Institute. As the name implies, the program emphasizes project based learning and the participants learned how to plan, organize and carry out project based learning projects in the sciences. Eleven teachers received three graduate credit hours, or a total of 60 continuing education hours, when combined with subactivities A and B. .

Activity 6: HD1 will provide professional development

SUBACTIVITY A

PD for science kits, curriculum standards, support documents, and S3 Guide on early out days

Hampton School District One provided professional development to teachers on early out days and periodically throughout the summer of 2013. The trainings provided by the District were:

- Science Kit: Participants were trained on how different science kits are put together and practiced presenting lessons to one another. They also taught lessons to small groups of students. Twenty-two teachers received 56 hours each of credit for participating in the training.
- K-3 Common Core Math Summer Institute: As the first step in the District's state-mandated implementation plan, teachers learned to unpack the Common Core State Standards in math and apply them to classroom instruction. One teacher received 15 hours of credit for participation.
- Thinkfinity: Participants in this course learned technology skills to prepare them for the higher level Intel technology course (below). The material is designed based on needs identified in the teachers' state technology assessment scores. One teacher successfully completed this course and earned 45 credits.
- Intel: The guiding question for the course is: *How can technology be used most effectively to support and assess student learning?* In the course, the participants design and develop resources for a unit of study that they teach. The unit is developed throughout the course's eight modules. Four teachers successfully completed the course and each earned 45 credits.
- Fraction Unit, HD1 Summer Institute: Master Teachers led classroom teachers in understanding the SC State Department's Fraction Unit resources for grades 3, 4, and 5. Teachers experienced these drop-in units as students would, engaging in the hands-on activities to develop their conceptual understanding and then completed the 45 hours through job-embedded professional development teaching these units to students with ongoing support from the Master Teachers. Eleven teachers participated in this professional development.

In addition, Hampton School District One provided support to teachers in participating in the following activities:

- Algebridge: AlgebridgeSC is an action research pilot that requires a three-year commitment from a team of Algebra I, Math for the Technologies 1 and 2, and middle school mathematics teachers who are from the same feeder school system. The pilot is supported by the S²TEM Center. This professional learning experience has three intended outcomes:
 - 1) Identify and understand the conceptual progression of SC Academic Standards for Mathematics middle school through Algebra I /Math for the Technologies 1 and 2;
 - 2) Analyze student work in order to differentiate instruction based on the various levels of student understanding of the SC Academic Standards for Mathematics;

3) Implement differentiated instructional practices to support students in their various levels of understanding of mathematics in order to accelerate student achievement.

Twelve teachers participated for nine days each during the 2012-2013 school year and received 54 hours of credit each.

- Robotics: Teachers participated in a four-hour training on how to use the LEGO® Education WeDo™ Kit. The kit includes materials, software and instructions on how to build a LEGO robot with working parts. This professional learning supports learning in science, technology, engineering, and mathematics (STEM) education for teachers as they experience hands-on/collaborative learning with students and other teachers. Two teachers received 25 hours of credit each.

Activity 7: Task force will meet quarterly to monitor and assess the project's progress using the EBDS Cycle.

The task force met quarterly to monitor and assess the project's progress to develop new strategies, make adjustments and address challenges. The task force consists of Jack Hutto, Carole McGrath, Rhonda Willis, and Anita Padgett and is supported by Kenna Alewine, Dr. Douglas E. McTeer, Amy Threatt and the Master Teachers. Each meeting has a specific topic and leads to a specific outcome. The topics of this year's meetings were:

- Integrated math and science across the curriculum
- Continuous improvement throughout the system
- Group transformations
- Needs assessment activities with schools
- Technical assistance for district schools and planning and implementation of Summer Institutes Year 2
- Completion of the district level plan and support of school level plans
- Sustainability after MSP and other funding sources dissipate
- The need to provide additional support for K-3 teachers during the summer for math Common Core
- Logistics of instructional fair to include sessions by master teachers
- Strategic plan with math/science and STEM principles
- Race to the Top – District Grant opportunity

The outcomes were:

- Strategies will be included with the strategic plan to include math/science best practices across the curriculum.
- The Task Force will share with Master Teachers and administrators about the need to monitor and adjust practices based on the needs as evidenced by data. The Task Force will provide support with strategic planning.
- Task Force will develop a plan to support schools with strategic plan that will include math/science principles.

- Schools will begin to develop strategic plans that will include math/science principles. It was mentioned that higher achieving students need support as well as low achieving students. It is believed these students will be challenged as teachers become more confident with inquiry-based/project-based learning.
- Schools will continue with strategic plans with support from Task Force members. Science kit training will be moved to July. A LEGO workshop will be added as a practical laboratory experience for teachers.
- Schools will continue to work on plans. Team members will provide template edits based on the district's plan that includes math/science and STEM principles
- It was determined that team members will divide up the tasks to complete the AT&T grant RFP.
- Instructional fair will last for two days during the first week of school. Teachers of Year and Master Teachers will provide support for teachers in math/science and other curricular areas.
- Task Force provided overview of the strategic plan, talk about STEM principles, and next steps that will help with dropout prevention.
- Task force members will work with SERVE to submit the Race to the Top-District application to sustain math/science principles including professional development and master teachers.

Objective 1: Professional Development Will Be Provided By Institutes Of Higher Learning Across All Grade Levels In Mathematics And Science

PERFORMANCE MEASURE

By June of years 1 and 2, at least **85% of HD1 math and science teachers will engage in at least 45 hours of professional development** provided by institutes of higher learning, the S²MART Center, and other certified instructors to understand the value of, the need for, and implementation of best practices.

During the third year of the project, of the 90 math and science teachers in the District, 88 (97.8%) received at least 45 hours of professional development from institutes of higher learning, the S²TEM Center, and other certified instructors. Of the two who did not, one retired and one was on sick leave. Therefore, of the available teachers, 100% received 45 hours of professional development. In years one and two, 77 (87.5%) received at least 45 hours of professional development from institutes of higher learning, the S²TEM Center, and other certified instructors during the grant year. This includes the nine master teachers who were trained in Cognitive CoachingSM by the S²TEM Center. The professional development opportunities included all of the specific activities in the grant proposal stated as part of this objective. Teachers also received a total of 1,668 hours of support from the master teachers for an average of 20.6 hours per regular classroom teacher. **The district has exceeded the performance measure.**

Objective 2: Teachers Will Create Action Plans For Reforming Instruction

PERFORMANCE MEASURE

By June of each year, at least **85% of math and science teachers will develop an action plan** that includes at least one instructional best practice for reforming their classroom that they have studied during the school year.

As described in the Introduction section of the evaluation, action planning is the first step in the Cognitive CoachingSM model. The Master Teachers began working with the math and science classroom teachers as soon as practicable during the summer of 2012 to revise the action plans submitted during the previous year.

As of September 23, 2013, 88 teachers (100% of the active teachers) had submitted their action plans. **The program therefore exceeded this performance measure.** The plans are flexible and are actionable, not something to be reviewed at a later date.

Evaluators reviewed the teachers action plans submitted at the end of the grant period. No attempt was made to assess the quality, suitability or appropriateness of the plans overall, as these were developed individually, in conjunction with the Master Teachers consultants and supervising staff of the project, based on the professional development needs of each teacher. Evaluators assume that local oversight is suitable.

One aim of this project is to increase the self-analytical and communication skills of Master Teachers and classroom teachers in order to improve classroom performance. Self-assessment and reflection form a core aspect of this process, as promoted through the Cognitive Coaching method. Therefore, a review was conducted by evaluators to determine the extent to which teachers responded appropriately and completely to the reflection section guidelines.

The content of each action plan reflection section was assessed according to the following scale:

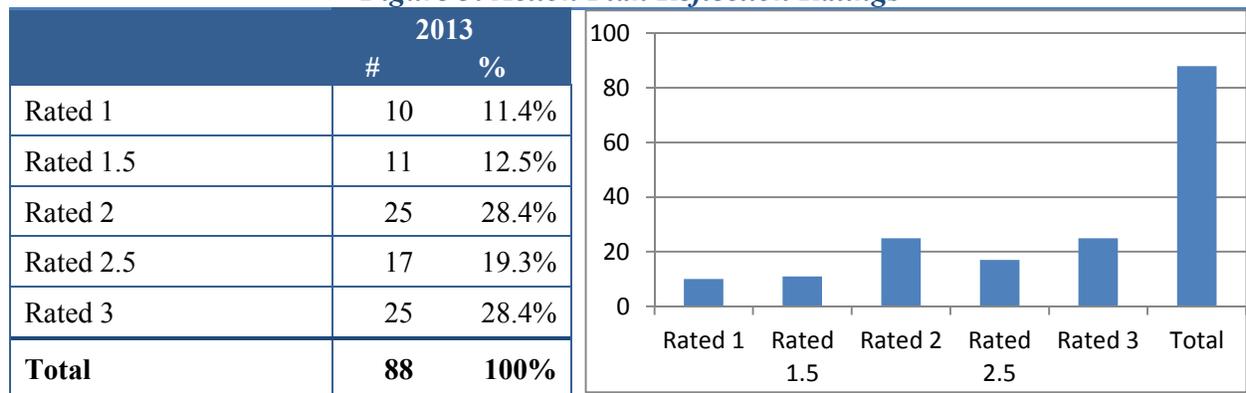
- 1 = superficial or insubstantial content; accounting of a few facts with minimal or no reflection; no consideration of one's own learning, goal achievement or professional growth.
- 2 = adequate content; evidence of reflection on what was learned and how to apply it to next steps in professional development.
- 3 = content is above expectations; thorough reflection, self-assessment and examination of growth; evidence of thoughtful planning.

In the reflection sections rated as 1, teachers wrote a couple of sentences about training they had attended or that student scores were higher. This could be characterized as basic, factual data that could be obtained elsewhere, such as the attendance records or the student test scores. The sections that were rated as 2 generally had a balanced blend of facts, such as new learning, as well as observations about how well attempts were working in applying new knowledge and techniques in the classroom.

Many of the reflection sections that were rated as 3, above expectations, noted not only content knowledge that the teachers had gained or new techniques they were using, but also details of their own learning and personal growth processes. Several noted changes they had made mid-year, after observing that something they tried was not working as well as they had expected. These sections also stated specific plans for how teachers intended to proceed, based on what they had learned in practice. The comments of these teachers in particular indicate skill development that will allow the improvement process to continue after the end of this project.

Of the 88 teachers who submitted an action plan, 10 (11.4%) received a rating on their reflection section of '1', 11 (12.5%) received a rating of '1.5', 25 (28.4%) received a rating of '2', 17 (19.3%) received a rating of '2.5', and 25 (28.4%) received a rating of '3'. (See Figure 3.)

Figure 3: Action Plan Reflection Ratings



Objective 3: Master Teachers Will Be Trained

PERFORMANCE MEASURE

The S²MART Center will provide **ongoing support to 9 HD1 master teachers** on how to provide formative feedback using the Cognitive CoachingSM model.

The project met this performance measure. Nine master teachers were chosen during the 2011 grant year using an exhaustive process. The Master Teachers chosen then received six days of face-to-face training from the staff at the Lowcountry S²MART (now S²TEM) Center on the Cognitive CoachingSM model. The first half of this training consisted of learning the theory and techniques of Cognitive Coaching. The second half consisted of carrying out Cognitive Coaching with one another with critiques provided by the staff. The Master Teachers reported that this practice was extremely helpful. When they had their first coaching session with a teacher, it was not like the first time they had done it. For the 2012-2013 grant year, the master teachers continue to receive telephone and face-to-face technical assistance from the S²MART Center. In addition, the Master Teachers conducted regular meetings to discuss common needs and solutions to these needs.

The master teachers believe the training proved to work out with the wide variety of personalities with whom the master teachers worked. Carrying out what they learned about Cognitive CoachingSM helped them get people to concentrate on the problem and solutions to problems. Focused conversations were extremely useful.

Objective 4: Support And Feedback Will Be Provided To Classroom Teachers By Master Teachers

PERFORMANCE MEASURE

By June of years 2 and 3, **Master Teachers will observe and provide ongoing feedback and support for at least 85% of HD1 math and science teachers** as they implement pedagogical best practices.

While planning is an important part of changing a teacher's actions, Cognitive CoachingSM is not a linear model, with one step following another. Rather, the coach helps the teacher navigate through their "territory of thinking" using the maps of planning, reflecting and problem-solving. The tools the coach uses to do so are rapport, meditative questioning, response behaviors and pacing and leading. The "maps" are not really separable as distinct entities but continuously interact. The coach's job is to use the tools to help the teacher do the navigating.

The master teachers provided individualized support as well as need-based professional development to classroom teachers throughout the year. This coaching was reported by the Master Teachers and by administrative staff and confirmed through the teachers' plans and a survey of a sample of teachers in each school in the District in which 100% percent reported having daily to weekly support from their assigned Master Teacher. **The program has, therefore, exceeded this performance measure.**

FINDINGS PART II: OUTCOME EVALUATION

Both outcome objectives and their performance measures are to be measured in the second and third year of the grant. Baseline and interim progress data are presented here for information.

Objective 5: Improved Student Achievement In Mathematics And Science

PERFORMANCE MEASURE

By June of years 2 and 3, grade level achievement in math and science on PASS will improve by **at least 3% annually** compared to the 2009 – 2010 baseline data to narrow the gap between HD1 and the state average. By June of years 2 and 3, the percentage of students passing EOC exams in Algebra and Physical Science and HSAP math will increase by **at least 3%** compared to the 2009 – 2010 baseline data.

Students in Hampton School District One had an average scale score on the Math PASS test of 616.2 points in 2010 (n=1180) and an average scale score of 619.3 points in 2011 (n=1176). This is an increase of less than one percent. The average scale score for students in the third grade in 2011 (mean=623) is 1.5% higher than the average scale score for students in the third grade in 2010 (mean=613.6), which gave the third graders the greatest change between 2010 and 2011. The average scale score for students in the fifth and seventh grades had the second highest changes between 2010 and 2011. The fifth grade scores increased by 1.2% between 2010 (mean=610.1) and 2011 (mean=617.2); however, the scores of the seventh graders decreased 1.2% between 2010 (mean=615.3) and 2011 (mean=608), showing the only decrease in average grade level PASS scores. The average scale score for all other grade levels in 2011 is about 0.5% more than the average scale score of the students in the same grade during the previous year. (See Figure 4.)

Students in Hampton School District One had an average scale score on the Math PASS test of 623.9 (SD=48.53) points in 2012, which is an increase of 1.2% from 2010. The greatest change occurred in the average score of students in the fourth through sixth grades. Students in fourth grade had an average scale score on the Math PASS test of 635.9 (SD=51.2) points in 2012, which is an increase of 1.8% from 2010. Students in fifth grade had an average scale score on the Math PASS test of 629.8 (SD=45.3) points in 2012, which is an increase of 3.2% from 2010. Students in sixth grade had an average scale score on the Math PASS test of 631.2 (SD=47.21) points in 2012, which is an increase of 1.8% from 2010. (See Figure 4.)

In 2013, students in Hampton School District One had an average scale score on the Math PASS test of 623.9, which is an increase of 1.6% from 2010 and an average change from 2012 of -0.1%. The greatest change occurred in the average score of students in the fifth grade (3.9%). Students in fifth grade had an average scale score on the Math PASS test of 633.7 (SD=48.6). In the past year, the greatest change was for students in the seventh grade (2.1%), with average scale score on the Math PASS test of 622.0 (SD=44.8). (See Figure 4.)

Of the 1,180 students in Hampton School District One who completed the Math PASS test in 2010, 725 (61.4%) achieved a performance level of met or exemplary. Of the 1,176 students who completed the Math PASS test in 2011, 754 (64.1%) achieved a performance level of met or exemplary, an increase of 4.4%. The percentage of sixth graders who scored met or exemplary on the Math PASS increased by 15% from 2010 (61.3%) to 2011 (70.5%). Seventh grade was the only grade level in which the percentage of students scoring met or exemplary decreased (-11.7%). The eighth grade had the lowest increase of percentage of students who achieved met or exemplary between 2010 and 2011 (2.4%), followed closely by the change in percentage of students in the fourth grade who achieved met or exemplary (2.7%). (See Figure 4.)

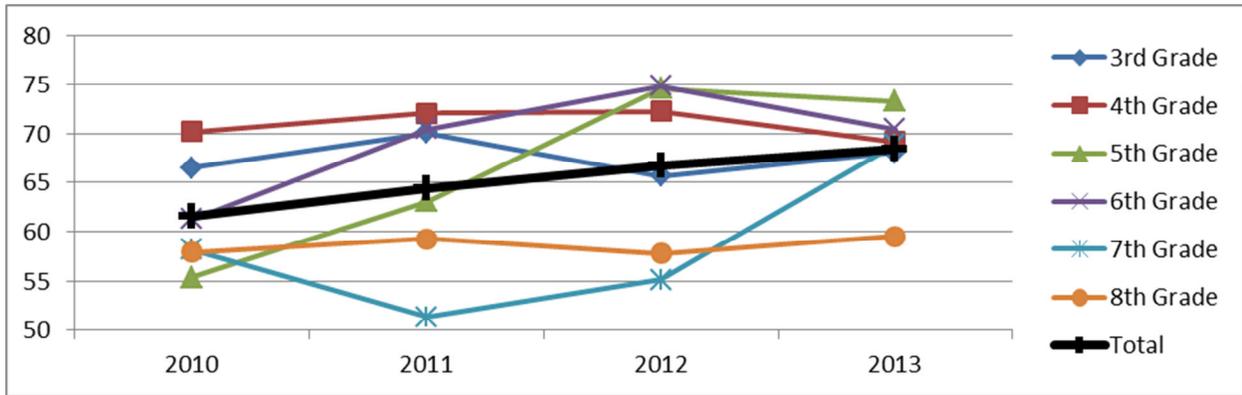
Of the 1,102 students in Hampton School District One who completed the Math PASS test in 2012, 735 (66.7%) achieved a performance level of met or exemplary, which is an increase of 8.3% from 2010. The percentage of fifth graders who scored met or exemplary on the Math PASS increased by 34.7% from 2010 (63.1%) to 2012 (74.6%), and the percentage of sixth grades who scored met or exemplary on the Math PASS increased by 22.2% from 2010 (61.3%) to 2012 (74.9%). Third, seventh, and eighth grades had a decreased percentage of students scoring met or exemplary decreased (-1.2%, -5.3%, and -2.5% respectively). The fourth grade had the lowest increase of percentage of students who achieved met or exemplary between 2010 and 2012 (3%). (Figure 4.)

Of the 1,094 students in Hampton School District One who completed the Math PASS test in 2013, 748 (68.4%) achieved a performance level of met or exemplary, which is an increase of 11.1% from 2010 and 2.5% in the past year. The percentage of seventh graders who scored met or exemplary on the Math PASS increased the most in the past year by 25% and 15% from 2010 to 2013. The percentage of fourth, fifth, and sixth graders who scored met or exemplary have decreased slightly in the past year (4.3%, 1.7%, and 5.9%, respectively). (Figure 4.)

Using the percentage of all students who achieved a performance level of met or above on the math PASS test in 2010 to 2013, **the district met their goal of an increase of 3% improvement annually** (total improvement of greater than 9% from 2010) in grade level achievement on the math PASS test.

Figure 4: Change in Math PASS Test

	Mean Scale Score					Performance Level Met or Above				
	2010	2011	2012	2013	% Change	2010	2011	2012	2013	% Change
3rd Grade	613.6	623.0	623.2	623.4	0.0%	66.5%	70.1%	65.7%	68.1%	2.4%
4th Grade	624.6	627.3	635.9	625.1	-1.7%	70.2%	72.1%	72.3%	69.2%	-1.4%
5th Grade	610.1	617.2	629.8	633.7	0.6%	55.4%	63.1%	74.6%	73.3%	32.3%
6th Grade	619.8	624.1	631.2	622.4	-1.4%	61.3%	70.5%	74.9%	70.5%	15.0%
7th Grade	615.3	608.0	609.2	622.0	2.1%	58.2%	51.4%	55.1%	68.9%	18.4%
8th Grade	613.8	617.7	614.5	611.7	-0.5%	57.9%	59.3%	57.8%	59.5%	2.8%
Total	616.2	619.3	623.9	623.2	-0.1%	61.4%	64.1%	66.7%	68.4%	11.1%



Students in Hampton School District One had an average scale score on the Science PASS test of 615 points in 2010 (n=795) and an average scale score of 611.6 points in 2011 (n=787). This is a decrease of 0.5%. The average scale score for students in the third and fifth grades did not change between 2010 and 2011. The seventh graders' average scale score had the greatest change across all grades between years (-2.8%); their scores dropped from 627.4 in 2010 to 610.1 in 2011. The sixth grade scale scores showed the greatest positive change across the grades, with average scores increasing 1.7% from 2010 to 2011. None of the remaining grades' scores either increased or decreased more than 1%.

Students in Hampton School District One had an average scale score on the Science PASS test of 614.8 (SD=45.21) points in 2012, which is no change from 2010 and less than 1% increase from 2011. The greatest change occurred in the average score of students in the fifth and sixth grades. Students in fifth grade had an average scale score on the Science PASS test of 630.4 (SD=51.52) points in 2012, which is an increase of 3.3% from 2010. Students in sixth grade had an average scale score on the Science PASS test of 615.1 (SD=36.92) points in 2012, which is an increase of 2.3% from 2010. Students in fourth grade had an average scale score on the Science PASS test of 622.2 (SD=40.90) points in 2012, and had the smallest increase in points of 0.4% from 2010.

In 2013, students in Hampton School District One had an average scale score on the Science PASS test of 612.9, which is relatively no change from 2010 (-0.3%) and from 2012 (-0.3%). The average change from 2010 has not increased by more than 3% in any grade level, and has declined by a relatively negligible 1-2% from 2012 for students in fourth, fifth, sixth and eighth grades. (See Figure 5.)

Of the 795 students in Hampton School District One who completed the Science PASS test in 2010, 478 (60.3%) achieved a performance level of met or exemplary. Of the 787 students who completed the Science PASS test in 2011, 465 (59.1%) achieved a performance level of met or exemplary. This is a slight decrease of 1.9%. The percentage of sixth graders who scored met or exemplary on the Science PASS test increased by 41.4% between 2010 and 2011, and the percentage of eighth graders who scored met or exemplary increased by 18.4%. In 2011, 58.6% of seventh graders achieved met or exemplary performance levels, compared to the 74.1% who did so in 2010. Seventh grade had the greatest decrease in percentage of students scoring met or exemplary (-20.9%). The fifth graders showed the least amount of change between the two years. The percentage of fifth grade students who achieved met or exemplary in 2011 decreased by 1.1% compared to the students in the same grade level during the previous year.

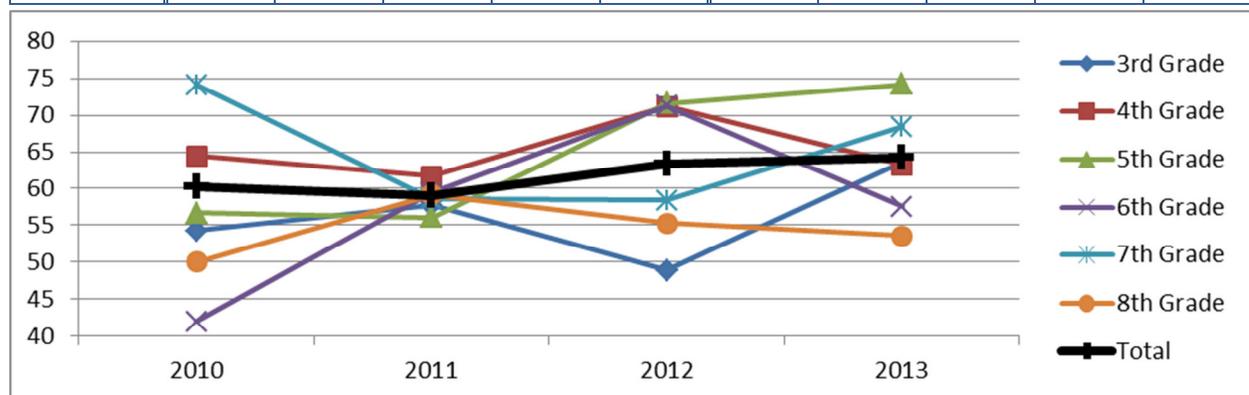
Of the 733 students in Hampton School District One who completed the Science PASS test in 2012, 464 (63.3%) achieved a performance level of met or exemplary, which is an increase of 5% from 2010 and an increase of 7.1% from 2011. The largest increases in the percentage were in the fifth and sixth grades. The percentage of sixth graders who scored met or exemplary on the Science PASS increased by 69.8% from 2010 (42%) to 2012 (71.3%). Third and seventh grades had a decreased percentage of students scoring met or exemplary decreased (-9.9%, and -21.2% respectively). The fourth and eighth grades had the lowest increase of percentage of students who achieved met or exemplary between 2010 and 2012 (10.6%).

In 2013, of the 736 students in Hampton School District One who completed the Science PASS, 473 (64.3%) achieved a performance level of met or exemplary, which is an increase of 6.6% from 2010 and an increase of 1.6% from 2012. The largest increases in the past year were in the third and seventh grades. The percentage of third graders who scored met or exemplary on the Science PASS increased by 30.3% from 2012 (48.9%) to 2013 (63.7%). The percentage of seventh graders who scored met or exemplary on the Science PASS increased by 17.1% from 2012 (58.4%) to 2013 (68.4%). (Figure 5.)

Using the percentage of all students who achieved a performance level of met or above on the science PASS test in 2010 to 2013, **the district progressed toward but did not meet its goal of 3% improvement annually** in grade level achievement on the science PASS test.

Figure 5: Change in Science PASS Test

	Mean Scale Score					Performance Level Met or Above				
	2010	2011	2012	2013	% Change	2010	2011	2012	2013	% Change
3rd Grade	608.2	608.1	602.8	609.8	0.3%	54.3%	57.7%	48.9%	63.7%	17.3%
4th Grade	619.8	617.1	622.2	611.5	-1.3%	64.4%	61.7%	71.2%	63.2%	-1.9%
5th Grade	610.1	610.0	630.4	626.5	2.7%	56.7%	56.1%	71.6%	74.2%	30.9%
6th Grade	601.1	611.4	615.1	611.1	1.7%	42.0%	59.4%	71.3%	57.5%	36.9%
7th Grade	627.4	610.1	608.8	616.3	-1.8%	74.1%	58.6%	58.4%	68.4%	-7.7%
8th Grade	604.7	610.2	608.4	598.5	-1.0%	50.0%	59.2%	55.3%	53.6%	7.2%
Total	615.0	611.6	614.8	612.9	-0.3%	60.3%	59.1%	63.3%	64.3%	6.6%



Hampton County School District’s high school students completed the state’s standardized end of year exam in math, the South Carolina High School Assessment Program (HSAP) and Algebra and Biology End of Course Exams (EOC). Passing grades for the EOC were scores of 70 or higher. Score categories on the HSAP ranged from 1 to 4. Students who met or exceeded examination requirements scored between a 2 to 4 and a student who scored a 1 was considered to not have met requirements.

In 2011, there was a 5.1% decrease in percentage of students passing the Math HSAP. In 2010, 138 (70.1%) of 197 students passed their Math HSAP exam, while in 2011, 145 (66.5%) of the 218 students who completed the exam passed. In contrast, the percentage of students who passed the Algebra EOC exam and the percentage of students who passed the Biology EOC exam increased by 13.7% and 14.3%, respectively. In 2011, 128 (74%) students passed the Algebra EOC, and 102 (53.4%) passed the Biology EOC.

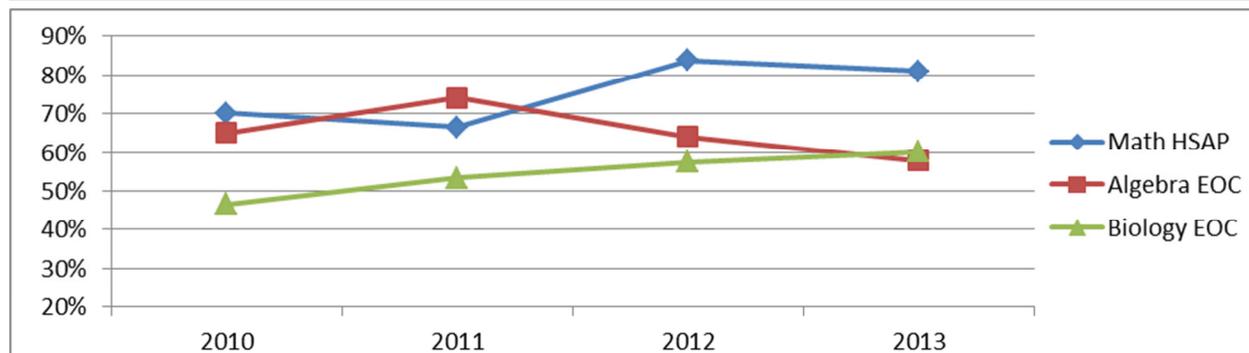
Of the 503 completed HSAP and EOC exams in Hampton School District One in 2012, 344 (68.4%) passed. The Math HSAP passage rate (n=140, 83.8%) increased 19.5% from 2010. The passage rate on the Algebra EOC (n=107, 64.1%) decreased by 1.5% from 2010. The passage rate on the Biology EOC (n=97, 64.1%) increased 22.9% from 2010.

In 2013, of the 584 completed HSAP and EOC exams in Hampton School District One, 387 (66.3%) passed. The Math HSAP passage rate in Hampton School District One (n=157, 80.9%) increased by 15.4% since 2010, but decreased by 3.4% from 2012. The passage rate on the Algebra EOC (n=114, 57.9%) decreased 11.1% from 2010. The passage rate on the Biology EOC (n=116, 60.1%) increased by 28.7% from 2010, and 4.7% since 2012. (See Figure 6).

The district exceeded its goal of increasing the percentage of students who pass the Math HSAP and Biology EOC by 3%; however, the district did not meet its goal of increasing the percentage of students who pass the Algebra EOC.

Figure 6: HSAP and EOC Passage Rate

	2010		2011		2012		2013		% Change
	#	%	#	%	#	%	#	%	
Math HSAP	138	70.1%	145	66.5%	140	83.8%	157	80.9%	15.4%
Algebra EOC	123	65.1%	128	74.0%	107	64.1%	114	57.9%	-11.1%
Biology EOC	28	46.7%	102	53.4%	97	57.4%	116	60.1%	28.7%



Objective 6: Improved Attitudes About, Greater Knowledge Of, and Increased Use Of Best Practices And Technology In Science And Math Instruction

PERFORMANCE MEASURE

By May 2013, comparing survey results in year 3 to baseline survey results in year 1, **at least 85%** of HD1 math and science teachers will demonstrate improved attitudes about, greater knowledge of, and increased use of best practices and technology in their science and/or math instruction.

The baseline survey was administered to math and science teachers by District staff in January of 2011 using an online survey method. Questions on the survey were divided into one of six areas, attitudes about best practices, knowledge of best practices, use of best practices, attitudes about technology, knowledge of technology, and use of technology. Responses to questions were made by teachers on a scale allowing for quantitative analysis of the responses.

For 2012, the survey was changed. The new survey asks for opinions and practices regarding technology and other pedagogical areas. Responses are qualitative or, in a few cases, dichotomous. Since the questions and method are different, a comparison cannot be made between the first and second year. The new instrument is quite complex and the constructs do not fall neatly or consistently into any particular measure (attitudes vs. use vs. knowledge). Furthermore, the survey is conducted anonymously and therefore direct comparisons by teacher cannot be made.

A qualitative review of the responses to the survey in both years does yield some interesting information. For instance, in 2013, 52 teachers (60% of 79 respondents) agreed with the statement, “Technology will be an integral part of the new common core standards,” compared to 42 teachers (53% of 87 respondents) who agreed with the statement in 2012. In 2012, a larger percentage of teachers reported that they believe “Technology use is an important skill in today’s society” (92% in 2012 and 82% in 2013) and that they use technology in instruction (85% in 2012 and 77% in 2013). However, in 2013, a larger percentage of teachers reported that they “create opportunities for students to use technology” (72% in 2012 and 78% in 2013). Also, the average frequency of use of technology in the classroom in 2013 is higher than it was reported to be in 2012 (average frequency in 2013 = 3.67 compared to average frequency in 2012 = 3.54 on a scale of 0 to 4 where 0 is never and 4 is daily). In addition, in 2013, only five teachers (6%) reported that they have the technology but lack adequate knowledge of how to integrate the technology into their curriculum, compared to eight teachers (10%) who agreed with this statement in 2012.

In 2013, only one teacher (1%) reported that they never use project based learning, compared to 20 teachers (25%) who reported that they never use project based learning in 2012. All teachers (100% of 87) reported that they let students work with a group or a partner at least every other week, compared to only 48% in 2012. Furthermore, in 2013, 90% of teachers reported that they help students understand how different ideas connect and 85% reported that they have changed

their teaching methods by implementing new strategies since last year. Overall, there appears to be an overall improvement in attitudes about, greater knowledge of, and increased use of best practices and technology in science and math instruction; however, it is difficult to determine how many teachers have improved using a comparison of the survey responses from 2012 to 2013. Therefore, the performance of this measure was evaluated using the percentage of teachers who reported that they changed their teaching methods by implementing new strategies since last year (85%). It is presumed that the new strategies were best practices learned as a result of the project and that the increased use of the best practices learned also indicates an improvement in their knowledge of and attitude toward those best practices. **The district has met this goal.**

FINDINGS PART III: GOVERNMENT PERFORMANCE AND RESULTS ACT (GPRA)

This section reports on the federal Government Performance and Results Act (GPRA) measures established for this grant. The results of measurements are reported and variances discussed.

GPRA Measure 1: Teacher Content Knowledge

The specific GPRA measure is “the percentage of teachers who significantly increase their content knowledge in mathematics and science, as reflected in project-level pre- and post-assessments.”

Teacher content knowledge was measured using the Study Island and A+ computer software. Study Island and A+ software has been purchased by the school district for use by students as an additional instructional tool. The A+ software is used primarily in the high school. Teachers were instructed to complete the module that is two grade levels above and in the same subject which they teach. On the pre-test, teachers who had achieved mastery of a grade level in the previous year were instructed to take the test for the next grade level, so that by the third year of the grant, many teachers were taking tests several grade levels above the grade level taught. Teachers completed the same test for both the pre-assessment and the post-assessment. Of the 84 math and science teachers who completed the pre- and post- content knowledge assessment, 40 (47.6%) completed a math module of Study Island, 22 (26.2%) completed a math module of A+, nine (10.7%) completed a science module of Study Island, and 13 (15.5%) completed a science module of A+.

The electronic spreadsheet supplied by the MSP federal program office was used to determine the number of teachers who showed significant gains in math and science content knowledge. This spreadsheet uses a “dependent t-test (for 30 or more respondents) or the Wilcoxon signed ranks test (for less than 30 respondents) to calculate, with 85 percent certainty, the number of teachers who showed significant gains”.

Of the 90 teachers in the District who participated in professional development opportunities, 72 participated in at least one of the courses that provided math content (a total of 137 participations). Sixty two of these teachers completed both the pre-test and the post-test on math content knowledge. Teachers with an improvement of four points or more from the pre-test to the post-test were considered to have made a significant improvement ($t=2.14$, $p=0.018$). Of these 62, 28 (45.2%) achieved significant gains in math content knowledge from the pre-test to the post-test. One teacher achieved a score of 100 on both the pre-test and the post-test.

Sixty teachers participated in at least one of the courses that provided science content (a total of 83 participations). Twenty two teachers completed both the pre-test and the post-test on science content knowledge. Teachers with an improvement of four points or more from the pre-test to the post-test were considered to have made a significant improvement ($W=1.76$, $p=0.039$). Of these 22, eight (36.4%) achieved significant gains in science content knowledge from the pre-test to the post-test. Three teachers achieved a score of 100 on both the pre-test and the post-test.

GPRA Measure 2: Students at the Basic Level or Below in State Assessments of Mathematics or Science

The specific GPRA measure is “The percentage of students in classrooms of MSP teachers who score at the basic level or above in State assessments of mathematics or science.”

The project is designed to serve all math and science teachers in the schools within Hampton School District One. Therefore, all students in the district should be impacted. During the 2012-2013 school year, there were approximately 2,491 students enrolled in school in the district.

Of the 1,094 who completed the Math PASS test in 2013, 346 (31.6%) scored not met. Of the 194 who completed the math portion of the HSAP, 37 (19.1%) had not met the examination requirements for a high school diploma. Of the 197 who completed the Algebra End-of-Course (EOC) test, 83 (42.1%) did not pass the test (scored less than 70 points).

Of the 787 who completed the Science PASS test in 2013, 263 (35.7%) scored not met. Of the 193 who completed the Biology End-of-Course (EOC) test, 77 (39.9%) did not pass the test (scored less than 70 points).

GPRA Measure 3: Students at the Proficient Level or Above in State Assessments of Mathematics or Science

The specific GPRA measure is “The percentage of students in classrooms of MSP teachers who score at the proficient level or above in State assessments of mathematics or science.”

The project is designed to serve all math and science teachers in the schools within Hampton School District One. Therefore, all students in the District should be impacted. During the 2012-2013 school year, there were approximately 2,491 students enrolled in school in the district.

Of the 1,094 who completed the Math PASS test, 748 (68.4%) scored met or exemplary. Of the 194 who completed the math portion of the HSAP, 157 (80.9%) met the examination requirements for a high school diploma. Of the 197 who completed the Algebra End-of-Course (EOC) test, 114 (57.9%) passed the test (scored 70 points or more).

Of the 787 who completed the Science PASS test, 473 (64.3%) scored met or exemplary. Of the 193 who completed the Biology End-of-Course (EOC) test, 116 (60.1%) passed the test (scored 70 points or more).

GPRA Measure 4: Experimental or Quasi-Experimental Evaluation Design

The specific GPRA measure is “The percentage of MSP projects that report using experimental or quasi-experimental design for their evaluations.”

As stated in the methodology section of this report, System Wide Solutions, Inc. was asked in early August 2011 to evaluate the TEAMS grant, and an agreement was signed on August 17, 2011. An evaluation design was in place from the original grant proposal. The design included formative research and pre- and post-professional development tests only and other one-time data collection methods. The design is essentially a descriptive-exploratory design. SWS modified the design to include all measurements which had occurred, test score data on students in the district, and additional individual and group interviews. Because the project serves all of the math and science teachers in the district, even a quasi-experimental design would require comparison to teachers in another district. SWS and the district have made efforts toward and will continue to work toward identifying and obtaining consent to compare the progress of teachers in Hampton School District One to the progress of teachers in a similar district in South Carolina.

GPR Measure 5: Scientifically Valid Evaluation Results

The specific GPR measure is “The percentage of MSP projects that use experimental or quasi-experimental design for their evaluations that are conducted successfully and that yield scientifically valid results.”

The evaluation conducted for the 2012-2013 grant year is a descriptive-exploratory evaluation and therefore does not meet the federal definition of having a successful experimental or quasi-experimental design that yields scientifically valid results. Nevertheless, efforts were made to collect data in such a way that it may be used in the continuation grant for conducting an evaluation with a quasi-experimental design that yields scientifically valid results.

DISCUSSION

Process Evaluation

The process evaluation reports first on the numbers and makeup of the teachers and students served by the grant. It then reports on the implementation of the project by examining the planned activities of the grant proposal and the progress made toward meeting the performance measures for the four process objectives. Finally, this section reports on several performance measures mentioned in the proposal but not included under a specific objective.

There were 90 teachers served by the project during the year. (One of these was on sick leave most of the year and one left the district early in the year.) Of these about 71% are primary, elementary and special education teachers, with 8% teaching middle school and 21% teaching high school. These teachers serve 2,491 students, about 55% of whom are African-American and 63% of whom receive free or reduced meals. About 12% have a special need or are on an Individualized Education Program (IEP).

All of the activities/subactivities planned for the grant were conducted, often beyond what was required. It should be pointed out that there was 100% success in providing the training and graduate course called for in the grant proposal. In addition, 100% of active teachers completed action plans with reflections. Of some concern are the demands being placed on the master teachers at a time of great change in the district and the state education system. These demands are having an impact on their perception of their ability to carry out all their functions. During this year, these demands were addressed and changes were made to assist the master teachers to the extent possible.

The master teachers are universally admired by other teachers for the work they are doing. It is also apparent that the District and school level staff, as well as the teachers, are taking the project very seriously and implementing the project to a greater degree than what was originally envisioned. That is clear from the fact that three of the process performance measures were exceeded and one was met.

Outcome Evaluation

The success of the grant in improving outcomes was strong, with outcome measures being met, exceeded or almost met. The District met its goal of an increase of 3% improvement annually in grade level achievement on the math PASS test. The District progressed toward but did not meet its goal of 3% improvement annually in grade level achievement on the science PASS test; the increase was substantial, averaging over 2% annually. The District exceeded its goal of increasing the percentage of students who pass the Math HSAP and Biology EOC by 3%; however, the District did not meet its goal of increasing the percentage of students who pass the Algebra EOC.

The district achieved an overall improvement in attitudes about, greater knowledge of, and increased use of best practices and technology in science and math instruction as measured by the percentage of teachers who reported that they changed their teaching methods by implementing new strategies since last year (85%). It is presumed that the new strategies were best practices learned as a result of the project and that the increased use of the best practices learned also indicates an improvement in their knowledge of and attitude toward those best practices.

CONCLUSIONS

1. The process performance measures of the grant were met or exceeded.
2. The outcome performance measures of the grant were met, exceeded or substantial progress was made towards meeting the performance measures.
3. The project has been well administered and the Master Teachers and classroom teachers are enthusiastic about the TEAMS.
4. The TEAMS concept is being rapidly integrated into the District's teaching methods.
5. The measurement of teacher attitude, knowledge and use requires additional improvement.

RECOMMENDATIONS

1. The evaluation design be modified to a quasi-experimental design to assist the District in determining which of the professional development offerings have been most successful and should be continued.
2. A method be developed by the evaluators in conjunction with the District to analyze and interpret the teacher survey.
3. The District continue to strongly support the MSP project.

**APPENDIX ONE:
INTERVIEW INSTRUMENTS**

Date _____

SWS staff _____

- Wood
- Threatt
- Alewine
- Phillips
- Salisbury
- Stanfield
- Hatfield

- Hiers
- Huber
- Smith
- Stuckey
- Long
- French
- Taylor

1. How has the program progressed over the last year?

2. How has your schedule changed over the last year?

3. What is a typical week like for you as a MT?

4. What are you now doing in directly working with classroom teachers one-on-one?

9. How have things changed for the teachers you work with since the program began?

10. How have things changed for your school(s) since the program began?

11. How have things changed for the district since the program began?

12. How have things changed for you since the program began?