

**AN EVALUATION
OF THE MATHEMATICS AND SCIENCE
PARTNERSHIP GRANT
TO HAMPTON, S.C.
SCHOOL DISTRICTS ONE AND TWO
The Teachers Equipped to Advance Math
and Science (TEAMS) Program**

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October 30, 2016

ACKNOWLEDGEMENTS

We gratefully acknowledge the assistance of Hampton School District One and Two personnel who provided information through meetings, emails and discussions. We want to recognize the following individuals who made thoughtful contributions to this report and the reports from the two previous years. We also want to thank all the individual teachers who completed surveys and who spoke with us. Anyone we missed, please accept our grateful thanks.

Jack W. Hutto
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EXECUTIVE SUMMARY

Hampton County (SC) School Districts One (HD1) and Two (HD2) joined together to apply for a Math and Science Partnership (MSP) grant to fund Teachers Equipped to Advance Math and Science (TEAMS). The proposal was successful and the grant was received from the SC Department of Education beginning in September 2013. This grant follows up on a successful three year MSP grant District One conducted during the period of October 1, 2010 to September 30, 2013. This evaluation covers the third year of the new grant.

All of the activities/subactivities planned for the grant were conducted, often beyond what was required. It is of special note that there was 100% success in providing planned professional development. In 2015-2016, 112 teachers received a total of 7,560 hours of professional development during the grant year (67.5 hours per teacher on average). There were 126 action (growth) plans completed with one goal for content growth and one goal for use of research-based best practices. All of the teams envisioned in the proposal (vertical teams, Grade Level Teams, and CCSS/SCCCR School Implementation Teams) were established and active. All of the process objectives were met or exceeded.

Master teachers reported a total of 600 observations, consultations and other contacts with teachers during the school year. These instances of instructional coaching were provided to 112 teachers, over a total of 2,016.00 hours, which equals 17.7 hours per recipient teacher. The actual number is likely higher, since three master teachers did not report their activities.

The master teachers are universally admired for the work they are doing by other teachers who were interviewed. It is also apparent that the district and school level staff, as well as the teachers, are taking the project very seriously and changing the culture of the two districts to one of a learning community.

The report concludes that: the process performance measures of the grant were met or exceeded; teachers significantly improved both their content knowledge and use of endorsed pedagogical practices; the project has been well administered; the Master Teachers and classroom teachers are enthusiastic about the TEAMS; and the TEAMS concept is being rapidly integrated into the Districts' cultures.

Hampton School District 1 is the lead district for the project. The vision is to create highly effective teachers by developing their knowledge of current content standards and by replacing traditional methods with engaging strategies that involve inquiry and practices that promote higher-level thinking, open-ended problem solving, and relevant project-based learning (PBL). Master Teachers (MTs) provide classroom coaching support regarding practices which foster conceptual learning of content while whole school Vertical Teams, Grade Level Teams, and Common Core State Standards School (CCSS) Implementation Teams (SITs) provide content-focused support. Professional Development (PD) in content mastery, best practices, and the use of technology from Institutes of Higher Education (IHE's), Homecourt Publishers, S²TEM Centers, and Invent Now, Inc., among others, is provided to make elementary, middle, and high school classroom teachers more effective.

The purpose of the current evaluation is to provide information that will assist the project staff in meeting the goals of Project TEAMS as the grant ends and in assuring the continuing improvement of the project. Both the process of implementation and the outcomes of the program are reported on in the evaluation. The process evaluation assesses the implementation of TEAMS's constituent tasks and subtasks, based on the grant's narrative and ten process objectives. The outcome evaluation is based on the outcome objective, Objective 7. The design is quasi-experimental. The experimental group consists of four subgroups: HD1 Master Teachers (MTs) and math/science teachers and HD2 MTs and math/ science teachers. The comparison group is composed of similar teachers from Bamberg School District 1. In addition, the evaluation measures the success at meeting the Government Performance and Result Act (GPRA) measures established by the federal government for MSP grants.

The change in math assessments each year of the grant makes drawing conclusions about changes in scores for elementary and middle school students unrealistic. For science, there was a decrease in the percentage of elementary and middle school students scoring met or above in HD1 compared to the baseline year, but an increase in three of the five grades tested for HD2. For high school students, there was a reduction in scores on the algebra EOC in HD1, while HD2 students exhibited an improvement of more than 3% per year. The opposite was true for biology EOC, with HD1 students showing a more than 3% per year improvement and HD2 students exhibiting a decrease in met and above scores. During the third year of the grant, the comparison district (Bamberg) to be used in the quasi-experimental design received an MSP grant. The changes created by implementation of the MSP grant in the comparison district made a quasi-experimental design impossible to fulfill.

Of the 112 teachers who participated in the project during the 2015-2016 school year, 87 were HD1 teachers and 25 were HD2 teachers. Of those from HD1, 30 (34.5%) teach students in grades kindergarten through second (primary), 30 (34.5%) teach students in grades third through fifth (elementary), 11 (12.6%) teach students in grades sixth through eighth (middle), and 16 (18.4%) teach students in grades ninth through twelfth (high). Of the 25 from HD2, 17 (68%) teach students in grades kindergarten through fifth (elementary), two (8%) teach in middle school, and six (24%) teach in high school

Demographics for the districts were obtained using the State Department of Education 135-Day Active Headcounts Report. In 2015-2016, there were approximately 2,362 students enrolled in seven schools in HD1, of which 34.1% were in primary grades, 22.4% were in elementary grades, 15.3% were in middle grades, and 28.2% were in high school grades. About half of the students in the district (55%) were African American, 43% were Caucasian, and 2% were of other races. Seventy-one percent of students received free or reduced price meals.

During the 2015-2016 school year, there were approximately 788 students enrolled in three schools in HD2, of which 34.4% were in primary grades, 21.3% were in elementary grades, 15.1% were in middle grades, and 29.2% were in high school grades. Almost all of the students in the district (93%) were African American, 2% were Caucasian, and 4% were of other races. Of these students, 96.9% receive free or reduced meals.

In 2014-2015, the state changed the Math Assessment from the PASS to the ACT Aspire. The state then changed from the ACT Aspire in 2014-2015 to the SC READY. The percent of students who met or exceeded the standard on the math PSC READY in 2016 is presented for illustrative purposes, but tests scores on these three tests are not comparable for individual students. For the same reason, the gap in 2016 between Hampton Districts One and Two and the State as a whole is not comparable to the gap in 2014. Test score data was not received from HD2 in time to be included in this evaluation. Because of the change in the assessment, progress toward meeting the objective of improvement in student achievement could not be measured.

Due to lack of data (attributable to a hurricane causing an extension of the time at which these scores were to be released by the SCDE) it is not possible at this time to measure the HD 1 or HD2 high school students' reduction of the gap between HD1 algebra and biology EOC scores and the average scores for the state as a whole. This analysis will be completed when the data is available and this report amended.

Due to lack of data (attributable to a hurricane causing an extension of the time at which these scores were to be released by the SCDE) it is not possible at this time to measure HD 1 and HD2 third through eighth grade students' reduction in the gap between state assessment math or science scores and the average scores for the state as a whole. This analysis will be completed when the data is available and this report amended.

The project appears to have had a major impact on teacher practices. Teachers in HD1 and HD2 significantly improved their math and science content knowledge during the grant year. In addition, observation data shows significant improvement in the use of endorsed pedagogical practices for both math and science teachers.

In the two tests (math ACT Aspire and science PASS) on which multiple linear regression estimation could be applied, there were significant differences in achievement among different demographic groups. Reductions in scaled scores are associated with having a 504 plan, receiving free or reduced lunch, being identified as African-American and being identified as Hispanic. On the other hand, being identified as being in a gifted program is associated with higher scores. These differences are discussed in detail in the body of the report.

The report recommends that the Districts continue to strongly support the MSP project, in that additional funding for an MSP grant has been approved. The report further recommends that the program staff meet with the evaluation team to discuss the differences in scaled scores among different demographic groups; additional methods for closing the gap among different demographic groups; and the differences in achievement in closing the gap between state and district scores between Algebra EOC and Biology EOC.

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INTRODUCTION

Teachers Equipped to Advance Math and Science (TEAMS) is a joint project between Hampton School District 1 (HD1) and Hampton School District 2 (HD2). Hampton School District 1 is the lead district for the project. TEAMS is funded by a Math and Science Partnership (MSP) grant from the SC Department of Education and began in September 2013. This grant follows up on a successful three year MSP grant District One conducted during the period of October 1, 2010 to September 30, 2013. This evaluation covers the period of October 1, 2015-September 30, 2016, the third and final year of the new grant.

Goals and Objectives of TEAMS

MSP grants are intended to improve the mathematics and science outcomes for students by improving the teaching capabilities of mathematics and science teachers. Hampton School Districts One and Two proposed accomplishing this by a systemic change in mathematics and science classrooms through TEAMS. The TEAMS's 2010 design was built on findings of a study that identified factors which enabled at-risk students to succeed. The successes of the first grant took HD1 in the right direction; yet a lot of work remained to be done to help all Hampton County students succeed. To do so, TEAMS is designed to fill two needs for Hampton County schools.

- Hampton County schools need to improve student achievement in mathematics and science to break generational cycles of poverty.
- Hampton County teachers need to increase content knowledge and to use endorsed pedagogical practices in order to improve math and science education and students' performance and proficiency

The goal of this program is to raise student achievement in math and science through ongoing job-embedded professional development (PD) designed to increase teachers' content knowledge and use of current practices. The vision is to create highly effective teachers by developing their knowledge of current content standards and by replacing traditional methods with engaging strategies that involve inquiry and practices which promote higher-level thinking, open-ended problem solving, and relevant project-based learning (PBL). Master Teachers (MTs) provide classroom coaching support regarding practices that foster conceptual learning of content while whole school Vertical Teams, Grade Level Teams, and CCSS School Implementation Teams (SITs) 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 ten process objectives and success is to be measured through one outcome objective. Professional Development (PD) in content mastery, best practices, and the use of technology from Institutes of Higher Education (IHE's), Homecourt Publishers, S²TEM Centers, and Invent Now, Inc., among others, is provided to make elementary, middle, and high school classroom teachers more effective.

The process objectives are:

Objective 1: By July of each year, at least 85% of HD1 and HD2 math & science teachers will engage in at least 60 hours of PD provided by IHEs, S²TEM Centers, and other certified instructors.

Objective 2a: By August 2013, HD1 will identify nine MTs; HD2 three MTs.

Objective 2b: By December 2013, S²TEM CENTERS Center will train three HD2 MTs and new HD1 MTs to use the Cognitive Coaching Model.

Objective 3a: By January 2014, HD1 and HD2 will initiate training for content support and leadership teams including Vertical Teams for each school and across feeder systems in each district, and Grade Level Teams.

Objective 3b: By July of each year, teachers selected for school/district teams will engage in at least 60 hours of leadership development PD.

Objective 4: By September of 2013, HD1 and HD2 will initiate training for SITs to develop each school's strategic plan for Math CCSS classroom implementation and to monitor content delivery and best practice use.

Objective 5a: By April of each year, the MTs will assist 100% of teachers with the development of an action plan with at least one goal for content growth and one goal for use of research-based best practices.

Objective 5b: By June of each year, MTs will provide all teachers with at least three follow-up days of job-embedded PD guided by teacher's action plans detailing their content PD and their goals.

Objective 6a: By June of 2014, the MTs, Vertical Teams, and Grade Level Teams will design a webpage and publish a digital packet of all PD materials and resources developed for dissemination and replication.

Objective 6b: By July 30 of Years 2 and 3, the MTs, Vertical Teams, and Grade Level Teams will publish all new PD materials and resources developed for dissemination and replication to the digital packet.

The single outcome objective is:

Objective 7: By June of years 2 and 3, grade level attainment in math & science on state exams will improve by at least 3% annually compared to Year 1 baseline data to narrow the gap between district and state averages.

Project TEAMS is intended to serve 87 teachers and 2,670 students in seven schools in HD1 and 21 teachers and 1,814 students in three schools in HD2.

The grant also seeks to meet the Government Performance and Result Act (GPRA) measures established by the federal government for MSP 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.

TEAMS Description

All the professional development (PD) activities focus on objectives to increase teacher knowledge and improve student achievement. Through PD, teachers learn content using the same practices that they will use to help students learn. Activities that align classroom content and practices to the CCSS for Math and SC Science Standards include 60 or more PD hours annually for each math and science teacher; leadership training for Master Teachers, Vertical Teams, Grade-Level Teams, and SITs; individual teacher Action Plans stating goals for content and pedagogical growth; classroom coaching by MTs; and classroom support by content-focused Vertical Teams, Grade Level Teams, and SITs.

Teachers' content and pedagogical knowledge are deepened as they experience ongoing job-embedded PD. Offering college credit hours aids progress toward 100% of math and science teachers meeting the SC definition for highly qualified. MTs, guided by S²TEM Centers SC, provide coaching and guide teachers in the creation of annual Action Plans. The Citadel and USC-Aiken, teach content using current pedagogies; Invent Now teaches inquiry-based learning using standards-based STEM curricula; and Homecourt provides PD to strengthen capacity for project-based learning, technology, and resource distribution. TEAMSs activities energize classrooms with rigorous content and pedagogies. TEAMS will improve achievement by strengthening teachers' content knowledge and use of practices identified by the Math CCSS and *A Framework for K-12 Science Education* to encourage open-ended problem-solving and self-directed learning. By learning as students need to learn, teachers develop "a firm grounding on theory – understanding how learning occurs and is facilitated" (<http://www.nap.edu>).

Professional teams supported teachers as follows: 1) MTs - job-embedded PD and coaching, 2) Vertical Teams - content support and alignment, 3) Grade-level Teams - grade-level data analysis, decision-making, and resource development, and 4) SITs - implementation of Math CCSS and SC Academic Science Standards. S²TEM Centers trained newly hired HD1 MTs in the Cognitive Coaching model for eight days and trained and developed whole school content-focused Vertical Teams and whole school vertical teams across feeder systems for sixteen days.

S²TEM Centers SC provided MTs and Vertical Team members with onsite PD to improve teachers' content knowledge and pedagogical skills. MTs learned how to support and challenge their teachers as they developed both District Common Assessments (DCAs) and PBL units. Problem Based Learning provided rigorous curricula aligned with standards expected for postsecondary study in science, engineering, technology, and math (STEM).

S²TEM Center guided Vertical Teams, Grade-level Teams, and SITs each year through two content pathways - mathematics and/or science. The initial two days of foundational training were followed by 14 days of job-embedded follow-up sessions. Over the three years, Vertical Teams designed, implemented and modified lessons for Math CCSS and the SC Science Standards using identified practices. The S²TEM Center staff, MTs, and Vertical Teams moved from "development" to "full implementation" of new standards, PBL units and DCAs and work with Grade-level Teams and SITs for consistent school implementation. Leadership capacity built cohesive collaboration among teams, within schools, and across feeder systems. MTs helped teachers analyze their DCA results and used disaggregated data to identify areas for modification to close achievement gaps. The Districts deepened teachers' knowledge, improving practices, and developing resources during Early-Out PD days and 60-hour Summer Institutes (two weeks with three additional days of MT classroom support) focused on content, data analysis, technology, and resource and assessment development.

To increase teachers' knowledge of STEM content and practices, the Citadel provided teachers with 15 course offerings from The Citadel's Master of STEM Education program. Annually the Citadel is enabling at least 15 teachers to earn a minimum of three hours graduate credit. Course titles include: PBL and Interdisciplinary Teaching; STEM Education through Robotics; Research and Statistics for STEM Applications; Teaching, Learning and Assessing with Technology; and Forensic Science. Citadel professors also visited classrooms and provided online and telephone support.

The University of SC – Aiken offered Teaching and Assessing K-12 Mathematics and the Science and Engineering Practices. The purpose of this course was to develop and strengthen conceptual understanding, procedural fluency, strategic competence, adoptive reasoning and productive dispositions in mathematics. Topics included Science and Engineering Practices, The Engineering Design Process, Wind Turbines, Flight, Structures, Bridges, Robotics, appropriate integration of hands on manipulatives, Technology and Interactive Simulations.

Invent Now, a nonprofit center for STEM education, provided 60 hours of inquiry-learning PD using cutting-edge STEM curricula aligned with CCSS for Math and SC Science Standards. Invent Now PD includes an annual six hour foundational session, which "will explore teaching methods that help to develop critical thinkers and creative problem solvers...to foster growth in student achievement". Inquiry-based PBL had an impact on learning as teachers used these pedagogies to teach standards-based content and curricula during the regular day or during summer programs. Camp Invention was taught as summer institutes and Club Invention was modified and taught as part of the regular school day curricula.

Homecourt Publishers, LLC, provided PD in PBL aligned to CCSS and SCCR Standards; the integration and dissemination of online resources; data-driven instruction; and rubrics, constructed response items, and technology enhanced items.

Year 3's PD plan mirrored Year 1 and 2's PD plan. Action Plans identified the PD each teacher would experience and growth goals. In Year 3, teachers could choose a different PD or revisit previous PD with a focus on sustaining math and science education reform through increased teacher knowledge, ongoing classroom support and formative feedback, changes in practices and rigor, and self-directed learning.

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 TEAMS as the grant ends and in assuring the continuing improvement of the project.

Process Evaluation

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

Outcome Evaluation

The outcomes of the program are reported on in the evaluation. The area covered in this section is the single outcome objective, as measured by the performance measures stated in the grant proposal. Outcomes are to be compared internally between the two Hampton Districts and an outside district.

GPRA Measures

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

Impact of the Project

The TEAMS Project is designed ultimately to bring permanent change to the teaching of mathematics and science in Hampton County School District One and Two. 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 CCSS and SCCR Standards for Mathematics and SC 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 (SWS) was the evaluator for the HD1 2010-2013 MSP grant. SWS supported the development of the current MSP grant by writing the evaluation section of the grant proposal and consulting with the two school districts in developing objectives. SWS is familiar with the Hampton School Districts and their on-going efforts to improve outcomes for their students. HD1's previous MSP grant's evaluation outcomes have been applied to plan and improve performance, to help the Project Management Team (PMT) model teachers' training opportunities, and to expand HD1's success to HD2.

Evaluation Approach

SWS will assess the project's effect on teacher content and pedagogy knowledge, measure if this knowledge is being applied in the classroom, and analyze academic achievement data to determine students' growth using an action research approach to provide continuous feedback. Partners use this ongoing information to improve the program and assure success. SWS is conducting both a process and an outcome evaluation

The process evaluation assesses the implementation of TEAMS's constituent tasks and subtasks, based on the grant's narrative and objectives. Two methods, qualitative and quantitative, measure the success of each task and subtask. Partners enter quantitative data into the MSP GEMS® information system described below. The system has the data elements to meet state and federal reporting requirements. Surveys, project staff interviews, and direct observations provide qualitative data. The evaluators use this data to answer these questions: 1) How do conducted activities compare to the proposed activities and process objectives; 2) How well does the actual timeline match the proposed timeline; and 3) What impact did any changes to the plan have on the project's ability to achieve the objectives? SWS will continuously report results to the PMT through scheduled face-to-face meetings, telephone conferences, other direct contacts, and summative reports. The real-time reports produced by the MSP GEMS® will provide on-demand access to management, benchmark and other relevant information for the PMT, MTs, and teachers.

The outcome evaluation design is quasi-experimental. The experimental group consists of four subgroups: HD1 MTs and math/science teachers and HD2 MTs and math/ science teachers. Each district will identify these teachers and make annual adjustments as needed. The outcome evaluation first measures progress toward achieving identified objectives. In the second and third years, after the teachers have had the opportunity to implement what they have learned, the effect of each PD activity will be examined by comparing changes in teacher content and pedagogy knowledge, and student achievement among each group of teachers. Regression statistics will be used to account for differences in student demographics and teacher credentials and to measure the significance of the relationship. Bamberg School District 1 was selected to serve as the comparison group. During the first year of the evaluation, the baseline equivalence of the comparison group to the experimental group was measured to determine and account for

any significant differences in teacher credentials or demographics. In years 2 and 3, the evaluation will include an analysis of the achievement rates of HD1, HD2, and Bamberg students accounting for differences in staff characteristics, advanced degrees, and PD days to determine if differences in student achievement are greater than normal.

The MSP GEMS® online data system serves as the central point for data gathering, storage, statistical manipulation, and routine reporting; and holds the process plan, database, surveys, protocols, reports, and other information. Teachers use the system to complete assessments. Schools import student demographics and achievement, and Master Teachers enter observation data into MSP GEMS® for analysis.

Objectives and Measurement Methods

Objective 1: By July of each year, at least 85% of HD1 and HD2 math & science teachers will engage in at least 60 hours of PD provided by IHEs, S ² TEM Centers, and other certified instructors.	PD activity entries in MSP GEMS
Objective 2a: By August 2013, HD1 will identify 9 MTs; HD2 3 MTs.	MT's names and info.
Objective 2b: By December 2013, S2TEM CENTERS Center will train 3 HD2 MTs and new HD1 MTs to use the Cognitive Coaching Model.	PD activity entries in MSP GEMS
Objective 3a: By January 2014, HD1 and HD2 will initiate training for content support and leadership teams including Vertical Teams for each school and across feeder systems in each district, and Grade-level Teams.	Reports on specific team development activities
Objective 3b: By July of each year, teachers selected for school/district teams will engage in at least 60 hours of leadership development PD.	PD activity entries in MSP GEMS
Objective 4: By September of 2013, HD1 & HD2 will initiate training for SITs to develop each school's strategic plan for Math CCSS classroom implementation and to monitor content delivery and best practice use.	PD activity entries in MSP GEMS and activity observations
Objective 5a: By April of each year, the MTs will assist 100% of teachers with the development of an action plan with at least one goal for content growth and one goal for use of research-based best practices.	Review of action plans
Objective 5b: By June of each year, MTs will provide all teachers with at least 3 follow-up days of job-embedded PD guided by teacher's action plans detailing their content PD and their goals.	PD entries in MSP GEMS; observations; Interviews
Objective 6a: By June of 2014, the MTs, Vertical Teams, and Grade Level Teams will design a webpage and publish a digital packet of all PD materials and resources developed for dissemination and replication.	Review of webpage and packets
Objective 6b: By July 30 of Years 2 and 3, the MTs, Vertical Teams, and Grade Level Teams will publish all new PD materials and resources developed for dissemination and replication to the digital packet.	Review of packets.
Objective 7: By June of years 2 and 3, grade level attainment in math & science on state exams will improve by at least 3% annually compared to Year 1 baseline data to narrow the gap between district and state averages.	All student pre and post scores entered into MSP GEMS®

Phases of the Evaluation

Phase 1 – Preparation for Data Gathering

In this phase, the grant application was reviewed with the staff of the Districts involved in the management of the grant. A particular emphasis was placed 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 MSP GEMS® online information system was modified to collect the necessary quantitative information related to the evaluation. Grant management staff, master teachers and classroom teachers were provided access to the GEMS® and training on how to use the system to enter necessary information. Users have access only to their own data, or, in the case of administrators of the project, to the project's data.

SWS developed an observation instrument to be used by the Master Teachers and the Project Director to observe the teachers. A section was added to the MSP GEMS® so that this information can be directly entered by the observers.

Phase 2 – Gathering and Reviewing Information

Information gathering occurred in six stages. The first stage was a meeting with the project director and the Director of Special Projects for HD1 and representatives from HD2. In this meeting, the data needs and availability of the information were discussed and a list of actions to assure all necessary data would be gathered was created.

The second stage was the development of a data plan by SWS. This plan was circulated to the grant managers and comments solicited. The plan was then finalized.

The third 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.

The fourth 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 and email contacts with members of the project management team.

The fifth stage was to develop an interview schedule in order to conduct on-site interviews with the Master Teachers. Following development of the interview schedule, on-site interviews were conducted. (See Appendix One for a copy of the schedule)

The sixth stage was to access the standardized test score data for Hampton County and Bamberg School District 1 for the period under study. Standardized test score data (science PASS, SC READY math and Algebra 1 and Biology EOCEP) for the Hampton School districts and comparison district were provided by the districts. However, since the SC READY assessment

was new in 2015-16, it was not possible to make any comparisons for math scores in the evaluation.

Phase 3 –Preparation of the Information and Data

The qualitative information gathered was placed in a qualitative database for analysis. The quantitative data which was available was exported from the GEMS® 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 objectives; 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
- Conclusions
- Recommendations

Limitations of Evaluation

During each year of the grant, the state changed the student math assessment instrument. It is therefore not possible to compare student math assessment scores across the three years of the grant. During the third year of the grant, the comparison district (Bamberg) to be used in the quasi-experimental design received an MSP grant. The changes created by implementation of the MSP grant in the comparison district made a quasi-experimental design impossible to fulfill.

FINDINGS PART I: PROCESS EVALUATION

Introduction

The process evaluation reports first, to the extent possible, 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 progress towards completing the planned activities of the grant proposal. This is followed by information on progress made toward meeting the performance measures for the ten process objectives.

Teachers Served

In 2012-2013, the year which will serve as the baseline year, 5.8% of the classes in HD1 and 11.8% of the classes in HD2 were not taught by highly qualified teachers. In HD1, 61.8% of teachers had an advanced degree, and the 170 teachers (all subjects) participated in an average of 13.2 professional development days each year. In HD2, 60% of teachers had an advanced degree, and the 65 teachers (all subjects) participated in an average of 9.7 professional development days each year.

Of the 118 teachers who participated in the project during the 2013-2014 school year, 89 were HD1 teachers and 29 were HD2 teachers. Of those from HD1, 30 (33.7%) teach students in primary school, 29 (32.6%) teach students in elementary school, ten (11.2%) teach students in middle school, and 20 (22.5%) teach students in high school. Of the 29 from HD2, 16 (55.2%) teach students in grades kindergarten through fifth (elementary), six (20.7%) teach in middle school, and seven (24.1%) teach in high school. (See Table 1 and Figure 1.)

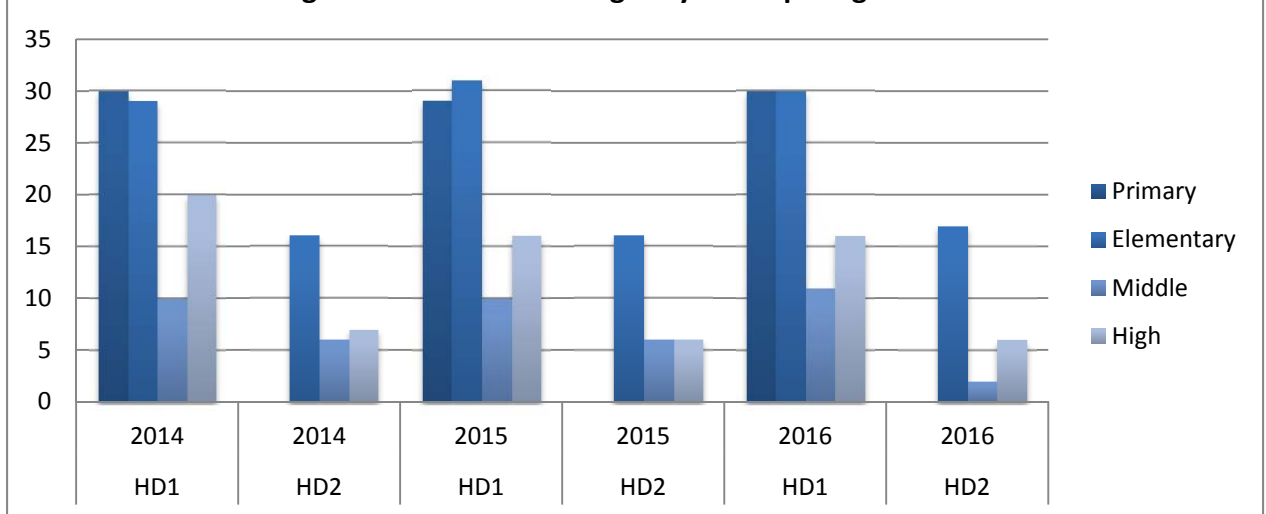
Of the 114 teachers who participated in the project during the 2014-2015 school year, 86 were HD1 teachers and 28 were HD2 teachers. Of those from HD1, 29 (33.7%) teach students in grades kindergarten through second (primary), 31 (36%) teach students in grades third through fifth (elementary), ten (11.6%) teach students in grades sixth through eighth (middle), and 16 (18.6%) teach students in grades ninth through twelfth (high). Of the 28 from HD2, 16 (57.2%) teach students in grades kindergarten through fifth (elementary), six (21.4%) teach in middle school, and six (21.4%) teach in high school. (See Table 1 and Figure 1.)

Of the 112 teachers who participated in the project during the 2015-2016 school year, 87 were HD1 teachers and 25 were HD2 teachers. Of those from HD1, 30 (34.5%) teach students in grades kindergarten through second (primary), 30 (34.5%) teach students in grades third through fifth (elementary), 11 (12.6%) teach students in grades sixth through eighth (middle), and 16 (18.4%) teach students in grades ninth through twelfth (high). Of the 25 from HD2, 17 (68%) teach students in grades kindergarten through fifth (elementary), two (8%) teach in middle school, and six (24%) teach in high school. (See Table 1 and Figure 1.)

Table 1: Grade Level Taught by Participating Teachers

	2013-2014				2014-2015				2015-2016			
	HD1		HD2		HD1		HD2		HD1		HD2	
	#	%	#	%	#	%	#	%	#	%	#	%
Primary	30	33.7%	0	0.0%	29	33.7%	0	0.0%	30	34.5%	0	0.0%
Elementary	29	32.6%	16	55.2%	31	36.0%	16	57.2%	30	34.5%	17	68.0%
Middle	10	11.2%	6	20.7%	10	11.6%	6	21.4%	11	12.6%	2	8.0%
High	20	22.5%	7	24.1%	16	18.6%	6	21.4%	16	18.4%	6	24.0%
Total	89	100%	29	100%	86	100%	28	100%	87	100%	25	100%

Figure 1. Grade Level Taught by Participating Teachers



Of the 89 HD1 classroom teachers who participated in 2013-2014, 23 (25.8%) teach only math, 16 (18%) teach only science, 46 (51.7%) teach both math and science, and four (4.5%) teach other related subjects (such as engineering, marketing, business, etc.). Of the 29 HD2 classroom teachers who participated in 2013-2014, nine (31%) teach only math, seven (24.1%) teach only science, and 13 (44.8%) teach both math and science. (See Table 2 and Figure 2.)

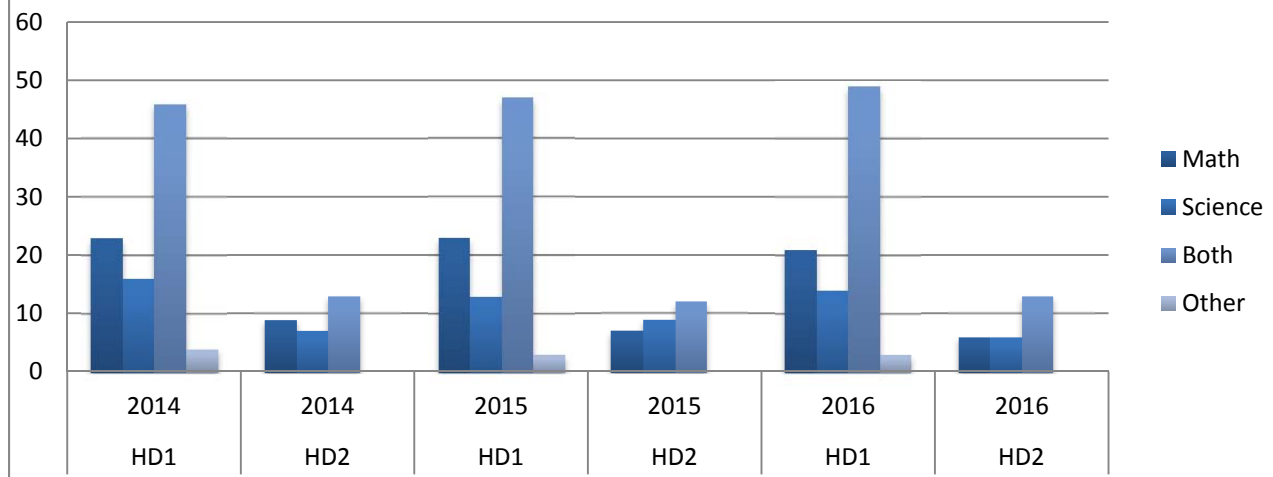
Of the 86 HD1 classroom teachers who participated in 2014-2015, 23 (26.7%) teach only math, 13 (15.1%) teach only science, 47 (54.7%) teach both math and science, and three (3.5%) teach other related subjects (such as engineering, marketing, business, etc.). Of the 28 HD2 classroom teachers who participated in 2014-2015, seven (25%) teach only math, nine (32.1%) teach only science, and 12 (42.9%) teach both math and science. (See Table 2 and Figure 2.)

Of the 87 HD1 classroom teachers who participated in 2015-2016, 21 (24.1%) teach only math, 14 (16.1%) teach only science, 49 (56.4%) teach both math and science, and three (3.4%) teach other related subjects (such as engineering, marketing, business, etc.). Of the 25 HD2 classroom teachers who participated in 2015-2016, six (24%) teach only math, six (24%) teach only science, and 13 (52%) teach both math and science. (See Table 2 and Figure 2.)

Table 2: Subjects Taught by Participating Teachers

	2013-2014				2014-2015				2015-2016			
	HD1		HD2		HD1		HD2		HD1		HD2	
	#	%	#	%	#	%	#	%	#	%	#	%
Mathematics Only	23	25.8%	9	31.0%	23	26.7%	7	25.0%	21	24.1%	6	24.0%
Science Only	16	18.0%	7	24.1%	13	15.1%	9	32.1%	14	16.1%	6	24.0%
Both Math & Science	46	51.7%	13	44.8%	47	54.7%	12	42.9%	49	56.4%	13	52.0%
Other	4	4.5%	0	0.0%	3	3.5%	0	0.0%	3	3.4%	0	0.0%
Total	89	100%	29	100%	86	100%	28	100%	87	100%	25	100%

Figure 2: Subject Taught by Participating Teachers



Classroom Teacher Surveys

HD1 conducted two teacher surveys during May of 2016. One survey was specifically for master teachers and the other for all district teachers. Both surveys contain a wealth of data that provides insight into the implementation and teacher level outcomes of the TEAMS program. The survey for all district teachers is discussed in this section of the evaluation. The master teacher survey is discussed in the master teacher section of the evaluation.

The goal of the program is “to raise student achievement in math and science through ongoing job-embedded PD designed to increase teachers’ content knowledge and use of current practices.” The vision is “to create highly effective teachers by developing their knowledge of current content standards and by replacing traditional methods with engaging strategies that involve inquiry and practices which promote higher-level thinking, open-ended problem solving, and relevant project-based learning (PBL).” Ultimately, the program, if successful, would change the culture of the district from a traditional pedagogical and administrative approach. **An analysis of the survey of all district teachers supports the conclusion that the program has been successful in achieving its goals and changing the district culture.**

In analyzing the survey, the evaluators identified four response areas that are pertinent to evaluating the program. These are: use of technology; pedagogical methods used in the classroom; teacher perceptions of administrators' behavior; and teacher moral. A total of 60 teachers (about 67% of the district's teachers) responded to the survey. Of these, 44 (73%) teach in elementary schools, 10 (16.7%) teach in the district middle school and six (10%) teach in the district high school.

Use of Technology

Of the 59 teachers responding to the technology questions on the survey, all stated that they use technology in the classroom. Fifty-three (89.8%) agreed with the statement that they use technology in instruction. Forty-eight (81.4%) agreed with the statement that they create opportunities for their students to use technology. Forty-three (72.9%) say they use technology daily and seven (11.9%) say they use technology weekly. Fifty-one (85.4%) agree that technology use is an important skill in today's society. *It is clear that the teachers responding to the survey believe that technology is both important to success in modern life and an important tool in the classroom.*

Pedagogical Methods Used in the Classroom

Fifty-eight of the fifty-nine teachers responding to the questions on pedagogy in the classroom agree that it is more important to understand concepts than to get the "right answer". In response to the question, "What best practices have impacted your student achievement most from those you have learned through job-embedded PD? Select all that apply." 40 (67.8%) agreed with participating in labs or project based learning; 58 (98.3%) agreed with collaborating on an activity with a partner; and 54 (91.5%) agreed with working in small groups to solve problems. Eighteen (30.5%) agreed with listening to lectures or presentations by the teacher.

In response to the question "My students learn best when they are engaged in..." 39 (66.1%) agreed with collaborating on an activity with a partner; 54 (91.5%) agreed with working in small groups to solve problems; and 38 (64.4%) agreed with participating in labs or project based learning. Ten (16.9%) agreed with listening to lectures or presentations by the teacher. Fifty-six (94.9%) agreed that they had changed their teaching methods by implementing new strategies since last year.

It is clear that the teachers responding to the survey have changed their teaching methods to ones that de-emphasize traditional approaches and emphasize student involved learning that attempts to help students understand concepts.

Teacher Perceptions of Administrators' Behavior

In response to the question "Please rate the extent to which your administrator values intellectual stimulation encouraged through instructional strategies that involve inquiry, technology-infused activities, and relevant problem solving (e.g. PBL, laboratories, research)," fourteen of the fifty-nine teachers responding (23.7%) rated the administrators as above average and 38 (64.4%) rated them as average. It is difficult to determine exactly what these responses mean, in that it is

not known to whom the teachers were comparing their own administrators and whether they believe such values are the norms in their district. A clearer judgement can be made from the responses to the statement “Please rate the extent to which your administrator is knowledgeable of current best practices (particularly for math and science) and uses this information to monitor classroom instruction.” Forty-two (71.2%) of the 59 teachers agreed or strongly agreed that their administrators met these criteria, while four (6.8%) disagreed or strongly disagreed.

Similar findings were found with the statement “Please rate the extent to which your administrator involves teachers in the design and implementation of important decisions and policies.” Forty-four (74.6%) agreed or strongly agreed that administrators involved teachers and ten (16.9%) disagreed or strongly disagreed. In response to the statement “Please rate the extent to which your administrator fosters shared beliefs and a sense of community and cooperation.” Forty four (74.6%) agreed or strongly agreed that this occurs and eight (13.6%) disagreed or strongly disagreed. Perhaps the most telling of the statements teachers were asked to respond to is “Please rate the extent to which your administrator is willing to and actively challenges the status quo in order to serve as a change agent.” Forty-four (74.6%) of the teachers agreed or strongly agreed that this is the case, while 11 (18.6%) disagreed or strongly disagreed.

It is clear that most of the teachers responding to the survey believe they are receiving appropriate and strong support from administrators to make positive change in their classrooms.

Teacher Morale

When asked to respond to the statement “My perception of faculty / staff morale in my school is that it is ___”, 37 (62.7%) of the 59 teachers responding said above average or average and 22 (37.3%) said below average or poor.

About two-thirds of the teachers responding to the survey believe that morale in their school is good.

Students Served and Their Demographics

The project serves all math and science teachers in Hampton Districts One and Two. In 2013-2014, there were approximately 2,453 students enrolled in seven schools in HD1. HD1 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 (55%) were African American, 43% were Caucasian, and 2% were of other races. The majority of the youth received free (65%) or reduced (10%) meals. During the 2012-2013 school year, the most recent year for which the state report card was available. Eight point six percent of students had a disability, the attendance rate for students was 96.3%, the retention rate was 3.1%, and 7.1% of students were older than usual for their grade. The annual dropout rate was 2.8% and the four year cohort graduation rate was 85.1%.

During the 2013-2014 school year, there were approximately 873 students enrolled in three schools in HD2. HD2 has one elementary school (grades K-5), one middle school (grades 6-8),

and one high school (grades 9-12). Almost all of the students in the district (94%) were African American, 2% were Caucasian, and 4% were of other races. The majority of the youth received free (85%) or reduced (5%) meals. During the 2012-2013 school year, the most recent year for which the state report card was available, 15.4% of students had a disability, the attendance rate for students was 93.9%, the retention rate was 3.3%, and 7% of students were older than usual for their grade. The annual dropout rate was 1.1% and the on-time graduation rate was 77.9%.

For 2014-2015, demographics for the districts were again obtained using the State Department of Education 135-Day Active Headcounts. In Hampton District One, participating teachers served 2,444 students, of which 26.9% were in primary grades, 21.6% were in elementary grades, 22.1% were in middle grades, and 29.5% were in high school grades. Just over half of the students in the district (55%) were African American, 43% were Caucasian, and 2% were of other races. Seventy-one percent of students received free or reduced price meals. Eight point one percent of students in HD1 had a disability, the attendance rate for students was 94.2%, and the retention rate was 2.5%. The annual dropout rate was 0.7% and the four-year cohort graduation rate was 86.4%.

In Hampton District Two, participating teachers served 812 students, of which 27.3% were in primary grades, 20.6% were in elementary grades, 22.4% were in middle grades, and 29.7% were in high school grades for 2014-2015. Almost all of the students in the district (93.2%) were African American, 4.3% were Hispanic, 2.2% were Caucasian, and 0.2% were of other races. Of these students, 96.9% receive free or reduced meals. Fifteen percent of students in HD2 had a disability, the attendance rate for students was 93.0%, and the retention rate was 7.6%. The annual dropout rate was 2.9% and the four year cohort graduation rate was 85.7%.

Demographics for the districts were obtained using the State Department of Education 135-Day Active Headcounts Report. In 2015-2016, there were approximately 2,362 students enrolled in seven schools in HD1, of which 34.1% were in primary grades, 22.4% were in elementary grades, 15.3% were in middle grades, and 28.2% were in high school grades. About half of the students in the district (55%) were African American, 43% were Caucasian, and 2% were of other races. Free or reduced meal, disability, retention, dropout and graduation rates for 2015-2016 were not available at the time this report was written.

During the 2015-2016 school year, there were approximately 788 students enrolled in three schools in HD2, of which 34.4% were in primary grades, 21.3% were in elementary grades, 15.1% were in middle grades, and 29.2% were in high school grades. Almost all of the students in the district (93%) were African American, 2% were Caucasian, and 4% were of other races. Free or reduced meal, disability, retention, dropout and graduation rates for 2015-2016 were not available at the time this report was written.

Student Survey

HD1 conducted a student survey during May of 2016. This survey is designed to determine student perceptions of math and science pedagogy in the district.

The goal of the program is “to raise student achievement in math and science through ongoing job-embedded PD designed to increase teachers’ content knowledge and use of current

practices.” The vision is “to create highly effective teachers by developing their knowledge of current content standards and by replacing traditional methods with engaging strategies that involve inquiry and practices which promote higher-level thinking, open-ended problem solving, and relevant project-based learning (PBL).” Ultimately, the program, if successful, would change the culture of the district from a traditional pedagogical approach. **An analysis of the survey of students supports the conclusion that the program has been successful in achieving its goals and changing the district culture.**

In analyzing the survey, the evaluators identified two response areas that are pertinent to evaluating the program. These are: the students’ perception of how they learn best and the students’ perception of how they are taught. . A total of 1,503 second through twelfth grade students (about 80% of the district’s students in these grades) responded to the survey. Of these, 470 (31.3%) are in elementary schools, 148 (9.8%) are in middle school and 885 (58.9%) are in high school.

Students’ Perception of How They Learn Best

In response to the question “In my math and science classes, I learn best when I am engaged in: (Select at least one.):, 1,178 (78.4%) students responded participating in labs or project based learning, collaborating on an activity with a partner, working independently to solve problems and/or working in small groups to solve problems. Of the students, 231 (15.4%)) responded listening to lecture or presentation by the teacher.

Students’ Perception of How They Are Taught

The students reported that virtually all their math or science teachers use lecture or presentation. However, the students also reported that just 26% of their math and science teachers use this method on a daily basis, with most (64%) using them once or twice a week. Students reported that 97% of their math and science teachers use project based learning at least monthly, with 20% using it at least weekly. Students reported that 84% of their math and science teachers let them work with a group or a partner at least weekly. Students reported that 98% of their math and science teachers let them work independently at least every other week, with 36% doing so daily. Eighty-eight percent of students agreed with the statement “In my math and science classes, my teacher helps me understand how different ideas connect.”

It is clear that the students’ perceptions of how they learn best and the students’ perceptions of how they are taught are aligned.

Project Management

The Project Management Team (PMT) continued to apply the EBDM Cycle to implement the plan for TEAMS with fidelity. The PMT monitored and assessed progress towards meeting the project’s goals throughout the grant year. The team met quarterly (indicated below with an *) and as needed through conference calls, e-mails, face-to-face meetings, and virtual meetings to plan PLO, make adjustments, and identify strengths. The PMT discussed the effectiveness of

strategies, researched new ideas, and addressed challenges. The PMT consists of Rhonda Willis, Jack Hutto, Dr. Carole McGrath, Anita Padgett, and Sarah Green-Williams and is supported by Dr. Douglas E. McTeer, Kenna Alewine, Amy Threatt, Darren Prevost, Dr. Kathy Richardson-Jones, Dr. Gary Senn, Gloria Allen, Ben Bache, and Britt Magneson. Input for meetings also was garnered from Master Teacher meeting minutes. Each meeting had a specific topic and lead to specific outcomes. The topics of this year's meetings were:

September –

- PMT- Needs assessment review to plan activities for schools
- USC-Aiken's (Dr. Senn) - STEM support quarterly PLO for teachers, STEM Education – Focusing on Teaching and Assessing the SCCCR Standards for Mathematics, offered by grade band and content integrated with science and engineering practices
- PMT- Discussion to merge of each school's Data Leadership Teams (DLTs) with the school's TAP Leadership Team to consistently use data to make data-driven instructional decisions at the classroom level and school level.
- PMT- Performance Reviews for S²TEM Center Facilitators for previous year's PLO
- Homecourt Publishers – Discussion of the PBL Project weekly warm-up (current event problems presented as problem-based learning as classroom starters) and continuation of PBL (project-based learning) classes
- S²TEM Center - Dates for PLO for Master Teachers' knowledge of the engineering practices during monthly meetings and Differentiated Learning for Adults cycle
- S²TEM Center - Plans to support teachers with PLO – Numeracy Leader Training 2nd Cohort, Engineering Is Elementary Cohort in HD2, and Science Standards Support
- PMT- Continuous improvement throughout the system; Finalization of 2015-2016 PD Menu for teachers; Dates for Children of Poverty and Habits of Mind
- PMT- Action Plans aligned with teachers' Individual Growth Plans; Alignment of HD1 and HD2 district goals with MSP goal and objectives
- PMT – Discussion with Jennifer Young from High Progress Literacy Associates to expand PLO for teachers across the district increasing classroom job-embedded support and including technology integration.

October –

- PMT- Review of the draft of the district level plan and support of school level plans
- Harcourt Publishers/Technology Coach – Begin PBL Cycle 1
- S²TEM Center – Finalization of dates, times, and locations for Numeracy Leaders, Engineering Is Elementary, and Science Standards Support PLO; Implementation of trainings.
- PMT- Review of district assessments and data collection
- S²TEM Center – Develop plan for setting up ZSpace lab and training PLO facilitators
- Invent Now – Conference call to discuss PLO for 2015-2016
- HPL – Discussion for PLO on November 11 - Deconstructing content standards, and then building a text set that contains entry texts through to complex texts for students to support student achievement in science
- SWS – Discussion of change in state assessments; Discussion of the evaluation and coordination of concurrent grant, iTEAMS

November –

- S2TEM Center – Meeting to discuss ZSpace support
- Invent Now – Finalization of details for inquiry learning PLO in January (location, time, PLO supplies, activities)
- Technology Coach – Discussion of plans for upcoming PBL cycle and PBL ideas
- Citadel – Discussion of Spring and Summer course offerings; Discussion about this grant cycle’s goals and budget and possible date to meet with teachers
- PMT – Review of evaluation plan

December -

- Invent Now – Discussion of job-embedded activities following January’s PLO and ongoing coaching support, PBL Summer Institutes for elementary teachers, and Middle School Summer Institute focusing on STEM and engineering practices.
- Citadel – Complete Spring Registration; Dr. Kathryn Richardson-Jones visit on December 14
- PMT- Discussion with administrators and Master Teachers regarding ZSpace PLO
- S2TEM Center – Follow-up discussion regarding the Engineering Is Elementary PLO (requested materials for training session in Hampton District 2) and Numeracy Leader PLO

January –

- PMT - Continuous improvement throughout the system; Review of the district level plan and support of the school level plans
- PMT – Update on the ZSpace Lab – worked several days to enter IP Addresses, updating software, etc.; S²TEM Center’s Rhett Nettles finding out about license numbers to be used on each device as well as teacher accounts.
- Citadel – Complete Spring Registration; plans finalized to communicate details to teachers regarding STEM Education graduate courses offered.
- SWS – Discussion of evaluation visit to interview Master Teachers
- Invent Now – Change in facilitator because of death in the family; Follow-up assessment of the Inquiry Learning PLO after initial training
- S2TEM Center – Discussion of allowing GT STEM Leadership Institute participants to visit the ZSpace lab during their 2nd day of PLO
- PMT – Discussion to have Foldables PLO as Saturday Academies rather than after school; discussion of timeline and PLO syllabus

February –

- PMT – Gathering of data for interim report and assessment of progress towards meeting goals
- Invent Now – Conference call follow-up on inquiry class progress monitoring and planning for job-embedded professional development during summer institutes PBL units; coaching logs of teachers using Club Invention PBL curricula and inquiry methods in the classroom; professional development plans for summer institutes using the Camp Invention curricula for job-embedded practice of inquiry learning methods
- USC-Aiken – Discussion regarding the promotion of RPSEC Summer 2016 STEM Education Institutes

March –

- PMT - Continuous improvement throughout the system; Use of Study Island benchmarks; Schedule for spring surveys for teachers and students; ZSpace technology update

April –

- Citadel – Summer Course Registrations
- USC-Aiken – Discussion of The Ruth Patrick Science Education Center (RPSEC) course offering: Concepts in Algebra Institute. The Algebra Institute is designed to provide instructional support for middle and high school teachers who will teach Foundations in Algebra, Intermediate Algebra, Algebra I and II, and Pre-Calculus courses.
- PMT – Discussion for Master Teachers PLO to increase knowledge of the Science and Engineering Practices as well as the ISTE standards

May –

- S2TEM Center – Rescheduling Adult Differentiated Learning session because of conflict with state testing schedule to May 25, 2016; Follow-up on Numeracy Leader PLO with facilitator; Continued discussion of PLO for Master Teachers on ISTE and engineering practices
- USC- Aiken – Discussion to confirm details of summer institutes offered through the Ruth Patrick Science Education Center (RPSEC). The CONCEPTS IN ALGEBRA INSTITUTE for instructional support for middle and high school teachers who will teach Foundations in Algebra, Intermediate Algebra, Algebra I and II, and Pre-Calculus courses. The STEM EDUCATION PROFESSIONAL LEARNING Institutes for improving academic excellence and effective integration of the South Carolina College- and Career-Ready Standards in Mathematics, technology integration, STEM applications, and the Science and Engineering Practices in K-12 mathematics and science classrooms.
- Citadel – Approved participant list for summer courses; Assistance to help participants of summer courses to complete enrollment
- Invent Now – Finalize details for summer STEM PBL institutes
- PMT – Development of 2016-2017 PD Menu
- PMT – Development of surveys for Master Teachers, teachers, and students using new district software platform; plans for conducting surveys
- PMT - Discussion of summer institutes to provide job-embedded professional development for math/science teachers of elementary, middle, and high school students and subpopulations, such as students performing below grade-level and Gifted and Talented students, during summer 2016; changes in SDE GAPS procedures

June –

- Invent Now – Discussion of new PBL designed to support applying inquiry-based strategies to teach middle school content.
- S2TEM Center – Finalize details for Master Teacher PLO on ISTE and engineering practices summer session; S2TEM Center surveys rating PLO facilitators
- PMT – Finalization of summer institute details (PBL, Inquiry Learning, Math Strategies, STEM, Technology); planning session to finalize PLO for 2016-2017
- PMT - Continuous improvement throughout the system

July –

- PMT – Analysis of the progress in setting up the ZSpace lab to begin PLO in September; Discussion of moving forward with STEM principles and engineering practices during 2016-2017; Z-Space technologies
- Citadel and USC-Aiken – Assessment of graduate course participation and initiate discussion of new graduate course offerings for 2016-2017; Assessment of teacher’s participation in the STEM Master’s program in Year 3.

August –

- PMT- Continuous improvement throughout the system; Assessment of the sustainability of the MSP reform in HD1 and HD2; Changing State Assessments impact on monitoring progress; Use of MAP data; Reevaluation of Study Island and MAP benchmarking; Consideration of other assessment tools to measure teachers’ growth in their content knowledge.
- Citadel – Overview of Fall courses offered
- PMT- Review of strategic plan and the continuation of MSP under the grant iTEAMS; Finalize preparation for ZSpace intital training

The outcomes were:

- The SIT/DLT members merged with the TAP School Leadership Teams to review data and monitor the implementation of the new SC CCR-Math standards in all grades during 2015-2016.
- The district and schools implemented strategic plans to ensure that TEAMS’s goal and objectives aligned to and supported other district initiatives.
- The district and school strategic plans and included math/science best practices and strategies to be used across the curriculum.
- The PMT provided ongoing support with strategic planning and for building leadership capacity within each school.
- The PMT continued to support Master Teachers in understanding the different learning levels of adults to help them strengthen their coaching skills and differentiate their support in the classroom through targeted PLO.
- Master Teachers used teacher data and individual action plan goals to plan and provide effective coaching and support for classroom teachers.
- Teachers continue to enroll in more graduate courses and ETV/PBS courses than in previous years. Teachers in each building specialized in numeracy, science standards, or engineering practices to broaden the level of leadership capacity and expertise in each building.
- Master Teachers facilitated PLO for teachers, recorded model lessons to share with teachers, and added more resources to the district MSP webpage.
- Schools made adjustments to strategic plans in the fall of 2015 with support from PMT members.
- Master Teachers began the process to update the District Common Assessments (DCAs) and benchmark tests to align to the new SC College and Career Standards. They reviewed different software platforms to support instruction and did a cost analysis of products to compare to Study Island for possible future support.

- Engineering Is Elementary PLO was implemented by Hampton District 2 in Estill Middle School for schoolwide implementation. All teachers have used the engineering kits in their classes. HD1 teachers also attended this PLO and used the engineering kits in their room. Teachers who completed this PLO in 2014-2015 continued to integrate EIE instructional practices and activities in their classrooms this year.
- Numeracy Leader training was implemented in Year 3 to develop another cohort of teachers who are equipped to support other classroom teachers with teaching students foundational mathematical concepts across grade levels and across schools. The Year 2 cohort participated in the SC SDE Numeracy Leader training during 2015-2016 to further increase and expand content knowledge. The SC SDE provided this PLO at North District Middle School for the entire Lowcountry region allowing Hampton teachers to collaborate with other Lowcountry teachers from other districts.
- The High Progress Literacy pilot continued at the pilot school but expanded to include all grade levels 4-6. Teachers through direct instruction and classroom coaching learned to teach students content specific vocabulary through a variety of sources in text sets. This PLO and coaching support also expanded to three other district schools.
- The PMT continued to offer opportunities for teachers at the middle and high school levels to engage in student-centered math and engineering process standards. Summer Institutes provided opportunities for them to implement activities with students for job-embedded learning and practice.
- Schools analyzed school data and trends to assess the effectiveness of instructional strategies and to identify needs. PMT provided ongoing support to Data Leadership Teams to help them gather and interpret data to increase student achievement.
- The PMT's partnership with USC-Aiken, The Citadel, Invent Now, and the S²TEM Center completed an RFP in Spring 2015, which was funded. The new project, iTEAMS, was implemented last fall and has supported an increase of STEM related PLO. This goal of this grant is to produce a culture of STEM-related classrooms and introduce instructional practices to help students learn using 3-dimensional technology.
- Master Teachers created, maintained, and will sustain a digital page to disseminate MSP resources, videos, research, PLO information, and other information to support teachers.
- The PMT continued to communicate the vision of reform in math and science instruction; provided provide increased PLO regarding stronger content knowledge, mathematical practices, ISTE standards and science and engineering practices; began the STEM initiative; and communicated next steps to minimize the dropout rate and increase student achievement.

Professional Development Plan

Year 3's PD plan development mirrored Year 2's PD plan. Action Plans identified the PD each teacher will experience and growth goals. In Years 2, teachers could choose a different PD or revisit previous PD with a focus on sustaining math and science education reform through increased teacher knowledge, ongoing classroom support and formative feedback, changes in practices and rigor, and self-directed learning. The PD options for the year may be found in Appendix Five.

Professional Teams and Their Training

The HD1 Master Teachers Vertical Team is a strong cohort. HD2, while in the formative stage, had all HD2 Master Teachers complete cognitive coaching. The elementary school and the high school, however, had two different coaches during the three-year grant cycle. 100% of Master Teachers who served under the TEAMS grant completed the Cognitive CoachingSM training before ever observing or coaching classroom teachers. Two cohorts of Master Teachers also completed the Differentiated Support for Adult Learning to better enable them to meet teachers' needs. The second cohort received their training during 2015-2016. The S²TEM Centers of the Lowcountry provided both the Cognitive CoachingSM and the Differentiated Support for Adult Learning professional learning opportunities to strengthen the leadership of this reform initiative for both districts.

Grade-level Teams provide grade-level data analysis, decision making and resource development. The Grade Level Teams capacity grew in the 2015-2016. They received professional development from the Master Teachers, from the SC State Department of Education, and the S²TEM CENTER. In 2015-2016, a second cohort of teachers completed Numeracy Leader Training provided by the S²TEM CENTER, while last year's cohort who completed this training became certified as SC Numeracy Leaders by completing the course led by the State Department of Education. The S²TEM CENTER facilitated PLO targeting grade band support for grades K-3; grades 6-8, and grades 9-12 in the science standards. Last year, this PLO gave support to the teachers of grades 4-5. This continued numeracy and science support has developed an independent body of teachers who can mentor other teachers new to the profession, new to the district, new to the teaching assignment, and/or who are less confident in the grade level content.

The Grade-Level Teams are the teams of teachers who have worked with Master Teachers to develop pacing guides and common assessments. Most of these teachers also serve on the School Implementation Teams, which developed into the Data Leadership Teams. Beginning during the summer of 2014, many Grade-Level Team members attended SDE regional trainings for the state standards. Others have pursued courses in PBL beyond the district PLO to increase their understanding. Invent Now and the S²TEM Center increased their capacity by providing numeracy training and science standards support specific to grade bands, inquiry learning and problem-based learning directly correlated to grade level standards, and professional learning that taught grade level content through recommended mathematical, science, and engineering practices.

The SC College and Career Ready Standards School Implementation Teams (SITs) members include the building administrator, the Master Teachers in each building, and representative core area classroom teachers in each school. The SITs were essential to unpacking and implementing Common Core Standards in 2014-2015, SCCCR –Math in 2015-2016 and SC Academic Science Standards in both years. Some schools included guidance counselors, related arts, and special education teachers on their teams. The SIT Teams strengthened during the grant cycle and evolved into each school's data leadership teams (DLT). Their purpose and mission became more focused on understanding the content and teaching the standards using instructional strategies that would improve student achievement. Hence they became focused on the data and

used it to set school and individual teacher goals. The data became important in monitoring student progress and the effectiveness of strategies. In 2015-2016, the schools' SIT/DLTs merged with the school's TAP Leadership Teams to analyze data and develop annual strategic plans to achieve school goals. The project manager has worked with the HD2 leadership to encourage a similar model for the leadership teams in their schools.

The SIT members received a full day of leadership training in the fall of 2013. They received ongoing leadership support through the S²TEM Center as the consultants actually attended some of each school's SIT/DLT meetings. In 2015-2016, the SIT/DLTs met with their school's Leadership Team at least quarterly to analyze data for goal setting, progress monitoring, making instructional decisions, and evaluation. During the S²TEM Centers visits, the consultants provided feedback and support. In September 2014, these teams received another full day of leadership training again from the S²TEM Centers. The ongoing school job-embedded support emerged from analysis of data and feedback the consultants gathered through their conversations with the project director, PMT, Master Teachers, SIT/DLT members and through their visits and observations.

Table 3: District 1 and 2 Team Structure

	Ben Hazel	Brunson	Fennell	Hampton	Varnville	North District	Wade Hampton
Full Time TAP MASTER	Julie Huber	Misty Cope	Violet Salsbury	Melonee Ginn	Brandy Peebles	Karen Whitlock	Mysti long
HD1 MSP MT	Meaghan Havenstrite Courtney Cook	Terry Wright Jodi Bostick	Saidell Moore Gloria Brown Ryan Brunson	Rachael Phillips Terri Stansfield Jacqueline Gallagher	Dawn Smith Robin Taylor	Susan Jarrell Latasha Smart	Jacqueline Hatfield Smith
Technology MT	Jamie Norris	Michelle Power	Scott Saunders	Betty Marsh	Kelly Shipes	Leah Stanley	Michelle Young
School Data Leadership Teams	Greg Ackerman	Greg Ackerman	Willie Coker	Terri Stansfield - R	Donna Kinard	Pat Brantley	Bonnie Wilson
	Diane Stanley	Lacy Vaughn - R	Violet Salisbury	Clarissa Geddis	Emily Johnson	Angelia Cooler	Betty French
	Courtney Cook - C*	Misty Cope	Olympia Solomon - C	Erin Long	Brandy Noll	Chris Mills	Charlie Boyles
	Blythe Delgado	Tammy Harvey	Maurice Alsing	Trina Tant	Dawn Smith - R	Karen Whitlock - C	Commander William Murtaugh
	Barbara Pauls - R	Tamiria Boykin - C	Amy Murdaugh - R	Chinon Conder	Elaine Rooker	Donna Griner	Heather Skinner
	Julie Huber	Tamra Bishop	Kim Roberts	Susan Padgett	Tineesha Singleton	Myrriah Hanna - R	Jacqueline Smith - C
	Michelle Purdy	Terry Wright	Denelle Thompson	Rachel Phillips	Kristin Rentz	Lavern Capers	Kaye Guty - R
	Meaghan Havenstrite	Tracey Preston	Gloria Brown	Monique Smalls	Kelly Shipes	Susan Jarrell	Rhonda Willis
		Jodi Bostick	Saidell Moore	Melonee Mattie	Michelle Hiers	Deloris Capers	Craig James
			Ryan Brunson*	Kristy Wood - C	Robin Taylor	Terri Kemmerlin	Mysti Long
HD2 MSP MT	Estill Elementary					Estill Middle	Estill High
	Shronda Taylor					Bernard Sanders - R	Sonya Lawson
HD2 CCSS School Implementation Team	Dr. Deborah Martin - C					Synetria Hawkins	Kamar Lee
	Gemera Owens					Dr. Sarah Williams - C	Pamela Love - C
	Shronda Taylor - R					Melinda Gordon	Jacqueline Murdaugh
	Mamie Jenkins					Roman Singleton	Shanai Poovadan - R
						Ophelia Mixon	

Master Teachers

All new Master Teachers received Cognitive CoachingSM training through the S²TEM Centers. 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 Master Teachers are formed into a support group, supported by an outside consultant, but generally self-directed. The Master Teachers each provide coaching to their assigned teachers within their own schools and in other schools as necessary.

The master teachers continued to receive telephone and face-to-face technical assistance from the S²MART Center. During the 2015-2016 grant year, five master teachers participated in Cognitive Coaching training from the S²MART Center. During the year the master teachers also participated in a total of approximately 60 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 Districts. The PowerPoint presentations used in these meetings may be found in Appendix Two.

Master Teacher Survey

The master teacher survey provides a good deal of information that can be very helpful to the school and district administrators in sustaining and improving the program. The questions asked in the survey, responses made by the master teachers and comments on those responses are provided below.

1. How effective do you believe the district has been in supporting you as a Master Teacher?

Responses

Very

Very Supportive!

I think the district has been effective in helping us grow as coaches

Effective

Well at first, but I feel the support has declined

Effective

The district has been awesome when it comes to supporting the Master Teachers.

Very supportive

Fair

Good

Somewhat effective

Comments

Most Master Teachers believe the district has given them the support they need. However, not all of the Master Teachers believe the support is as strong as they would like to see.

2. Do you have any suggestions for things that you or the district could do to increase the rapport you have with your teachers and/or to support a collaborative district culture?

Responses

The district could make sure that teachers have a clearer understanding of our role as coaches. By making the districts expectations known to teachers and administrators, teachers may be more inclined to support and buy into the collaborative district culture.

A clear vision of what this program is all about needs to be made known to all employees of the district. Before I became a Master Teacher, I didn't know exactly "why" we had Master Teachers, what their roles were, and why I "had" to take courses (over my summer break). I was just told to sign up for a class to fulfill the math and science grant. WHY??? These things aren't

made clear to regular classroom teachers and the "why" needs to be explained from a district level.

Find some funding somewhere for maintaining the level of materials we have...it shouldn't take an act of congress to replace batteries, math manipulatives, etc.

I promise I understand the need for maintaining quality PD opportunities, but at a certain point, the PD loses its effectiveness if teachers aren't able to request the materials or to have the necessary materials maintained appropriately with district and or grant funding. I understand the trials and tribulations of grant funding...heaven forbid if a grant provider thought far enough ahead to include funding for maintenance and upkeep...or even a field trip.

Teachers should view MT's as mentors rather than someone checking to make sure they are ""doing what they have to.""

The grant PD must align with the classroom needs.

A summary of grant purposes and requirements should be presented to each teacher.

Just let the teachers know I am there to help them, not judge them.

The teachers like getting their 60 hours of PD. They are seeing a connection between TAP and MSP; every year the "buy in" is growing.

Just continued support of the MT. Encourage an Open Mind approach to change to all teachers but especially to new teachers. If there is a course that the district feels is a must then make it mandatory.

Less things for them to do and more time to be able to help them do the things that they have to do

Comments

Most of the responses relate to communications among teachers, Master Teachers and administrators. The Master Teachers believe there is a need to more fully communicate what the MSP program is about and what the role of the Master Teachers is.

3. What is the most effective thing the district has done to support you?

Responses

Probably placing others in respective positions to be able to come in and evaluate and give productive feedback on best practices and what works in the classroom.

The most effective thing the district has done to support me is offering me ample professional development opportunities to increase content knowledge as well as a collegial atmosphere in MT Meetings to network and grow as a professional.

Professional Development and continuing education opportunities

The most effective thing the district has done to support me is allowed me to further my education while being a Master Teacher. I am excited to be working on my masters degree from The Citadel in STEM.

Provide PD opportunities to increase my capacity as a Master Teacher

The district has provided relevant PD for STEM standards and processes as well as training for coaching teachers.

The district gave me an iPad to use.

The district has provided me with numerous professional development opportunities.

Allowed me to have a substitute when I am out for MT and not questioning my motives when I need a MT day.

The district has great job of offering meaningful Professional Developments that could be immediately incorporated into the classroom.

Comments

The Master Teachers almost unanimously cite the professional development provided as being the most effective thing the district has done to support them.

4. How would you rate the change in rapport over the course of the year between you and the teachers you are supporting?

A little bit better

Good.

I have been doing this for several years now. I have a trustworthy rapport with the teachers I serve

High rapport

On a scale from 1 to 10 a 9

It has improved.

On a scale of 1-10, 8

The rapport remains positive and most teachers seemed receptive to feedback given.

On a scale from 1 to 5, a 3 maybe

Comments

The Master Teachers have seen an improvement in the rapport between them and the teachers and rate it as high.

5. What would you like to see changed about the process for next year?

Clear understanding with building administrators of expectations and roles

More discussion and action on issues that teachers are having

Discussion and coordination time between the Master Technology and the Master Math and Science teachers

I know all educators say this but more available time. I don't know if it could work out but if Master Teachers could have a time set aside each week that would allow us to observe and support career teachers that would be great! I have had so much trouble trying to find coverage for my class so that I could really observe and or assist other teachers.

I became a Master Teacher during the middle of the year. I felt confused about my roles and responsibilities. They were not made clear and it was assumed I knew what my responsibilities were. In the future, if anyone is hired mid-year, please be mindful that they are "newbies" and don't always know all expectations.

I would like to have a solid check list from day 1 that lays out specifically what the expectations are...what parts of the information I'm privy to that I am responsible for communicating with the teachers I am assigned to.

A complete calendar for the year with projected due dates, meeting dates, PD dates, etc. I understand that schedules will change throughout the year as things come up, but I would seriously appreciate some type of structure that can be referred to so that I will be able to more effectively communicate with the teachers I am assigned to as well as with my administrators what we are gaining from the grant and what opportunities/requirements there are in relation to the grant.

I would like to see more specific responsibilities. For example, I believe each Master Teacher should have a grade or grade band title to ensure more consistency across the district. For example, one MT should be designated as the First Grade Leader, etc. This person would make sure resources are uploaded for each grade level.

I have not been a Master Teacher that long, next year I would be able to answer that question

An additional planning period. I have to take time out of my classes to observe teachers, coach teachers, and PD. I stay until at least 5:00 every day to try and get all tasks completed. There is not enough time to successfully complete all required tasks of MT without some additional time that doesn't affect my classroom. When I have to be out of the classroom, my students suffer from lack of real instruction - and sometimes don't even have a substitute to give mediocre instruction. I know it is impossible not to miss any days, but there were some months I was out of the classroom for 5-6 days. Also, time to work on documentation during our monthly meetings. I have kept up with the spread sheet, but GEMS is time consuming; if time had been allotted each month to enter that month's logs, I would have been able to keep up with it. Also, GEMS was down several times this school year.

I think we need to look at the time of the year we meet and the amount of time spent each time. Is it possible to do a half day to reduce the instructional time of teacher out of the classroom especially for grades 3-6.

Less time out of my classroom

Comments

The Master Teachers' responses to the question about how to improve broke into two general areas. One is a call for better communications among the teachers, administrators and Master Teachers. The second was a request for more time to get their responsibilities completed in an effective manner.

6. What would you like to see the district do differently to support you next year as a Master Teacher?

Make administrators more aware of our responsibilities and expectations and encourage them to include STEM as a focus point in school professional development as we move into new state requirements and standards

I know all educators say this but more available time. I don't know if it could work out but if Master Teachers could have a time set aside each week that would allow us to observe and support career teachers that would be great! I have had so much trouble trying to find coverage for my class so that I could really observe and or assist other teachers.

The district needs to remind principals/office staff that these meetings are mandatory. Master Teachers often received negative feedback about being out of the classroom so much.

Be realistic with the expected paperwork...it seems that our spread sheet and the logging in online is redundant...we need a one stop shop for all things related to Master Teacher...the hunt and peck to find things is hideously annoying and isn't doing anything to build morale.

I understand there are ""things"" required for the grant...clearly communicate with us exactly what those things are...thus the repeated request for a checklist from DAY 1.

I do not like the separate meetings for math and science Master Teachers. I feel like the same information could be shared with both groups simultaneously. Plus, that's a lot of days for the STEM MT's to be out of their classrooms. I think it would be effective to schedule a MT meeting once per month but use the morning time (8 to 11) to observe classrooms (Subs would be required. Then, gather together for lunch and have PD together in the afternoons.

All Science Master Teachers at the primary and elementary level should have a copy of the pacing guide for each nine weeks. All the school should be in sync with each other. Master Teachers should have an extra planning period dedicated to Master Teacher stuff.

An additional planning period - preferably at the end of the day. Now that Z-space will be visited by outside MT teachers, I will need the time to set up and problem shoot the systems before the visitors arrive.

Ensure teacher has access to websites to ensure surveys and other requirements can be completed in a timely manner.

Less time out of my classroom

Comments

As with the previous question, the Master Teachers ask for a more efficient use of their time and better communications.

Individual Growth Plans

One hundred and twenty-six individual growth (action) plans were reviewed, 101 from HD1 and 25 from HD2. The growth plans were complete and comprehensive. All proceeded from school goals through individual goals to instructional goals, methods for achieving those goals and measurable objectives. In addition, the plans covered professional development, changes that have occurred in their classroom and reflection on the part of the teachers. The plans are closely aligned with the goals of the TEAMS project and the PD and other offerings of the project. A typical plan may be found in Appendix Three. All teachers participating in the project in HD1 and a substantial number in HD2 had completed plans. The number completing plans in HD2 improved when compared to the previous grant year.

Developing a Learning Community

Classroom teachers report that Project Based Learning (PBL) and Cognitive CoachingSM have changed the culture of the schools and the district. During the 2013-2014, 2014-2015 and 2015-2016 school years, much of what had been worked towards during the first grant came to fruition

in HD1. The students are more excited and projects are being implemented, such as gardening, improving halls, and so on. The students are giving more than the teachers ask. Some teachers express this as a domino effect - once the teachers get past their comfort zone, the students do too and this creates a learning community. The Master Teachers carry PBL to teachers who didn't receive formal classes in it. Teachers are collaborating with one another and passing on new ideas. Having the entire school community involved in learning has made a tremendous difference in students, and has also led to making use of other resources in the community.

Master Teacher Interviews

A group interview took place during the September 2015 monthly meeting of the master teachers. Rhonda Willis was conducting the session. Among other items, the teachers were prompted to enter GEMS data on coaching, technical assistance and professional development. The group interview was conducted informally to solicit the viewpoint of the teachers individually and as a group about the positive and negative aspects of the project.

1. In your opinion, how has the program progressed over the last year?

More PD with more choices has been added for all teachers. Classroom teachers are becoming more aware of the benefits. More direct classroom support has made the project more meaningful. We see more commonality among teachers using Best Practices. As Master Teachers some of us have more flexible schedules.

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

One teacher said that "I can ask for a day or days to catch up (get a substitute) for PD or for coaching teachers". Teachers in high school and elementary have a different amount of time allotted for planning. High school teachers have a planning period at the beginning of the day, which helps in planning for Master Teacher duties. Elementary teachers do not have this. One elementary teacher said that her school had eliminated a class period, which cut out her planning time. Another teacher said that the time log does not fully capture all the time that Master Teachers devote to related tasks.

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

We talk to other teachers all the time. Every week, we meet collaboratively re: Best Practices and planning. At one school, they have a Math and Science meeting every other week, plus subject-specific cluster meetings, At the high school, the Math and EOC teachers meet once a week and they are working to establish Math meetings once a week (not yet). In the high school the mater teacher looks for opportunities to do intentional coaching, such as observing a teacher and then leaving a reflective question in the teacher's box that would lead to the teacher wanting more observation and feedback. However, other teachers said that they have to use their designated planning time for their own classes, which squeezes out time for MSP Master Teacher tasks. They have to take what they describe as "time off" to observe other classroom teachers.

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

There was consensus that there has been a shift in the degree of acceptance of the Master Teachers. “Now teachers want me in their classroom.” Now teachers are more open and are willing to do their own materials preparation. Teachers are asking about standards, how to create lessons that are engaging. Teachers are asking for resources. During the regular planning time, issues arise that lead to PD ideas. Cluster Professional Development each week builds community. Trust among teachers has evolved. They are more excited and more open to share. Teachers now use a common language for the same processes (example: how to borrow and carry in math = underline and circle). However in the high school there is more teacher turnover, so they are not making as much headway. Professional development helps with this but not completely.

5. *What are you doing at a school and district wide?*

We look at vertical alignment for the District, what’s coming up next for students. District-wide, all Master Teachers provide PD at multiple schools and district-wide. The teachers have taken summer classes with an adjoining district. Visiting teachers from Hampton 2 came to Hampton 1 PD sessions.

6. *What do you think has been the most challenging part of the program for you?*

There was universal agreement that time was the biggest challenge for all the Master Teachers, time to take care of their own classes in addition to the Master Teacher duties. Taking time to “do it right.” Learning how to juggle time takes practice – it does not come naturally. They are continuing to learn. Many teachers said it takes cumulative time (years, not months) to develop confidence to take on leadership with other teachers. Now many are reflecting on “what we’ve done and are refining our craft”.

7. *What do you think has been the most challenging part of the program for the school(s) you work in?*

Time – how can the school allow the Master Teachers to take the time to do observations, coaching, etc. One teacher said that the amount of time she had to be away from her regular classroom was challenging. Getting buy-in about the MSP was different for teachers than for administrators. One administrator left, in part, because he felt he did not have input (about the program). Some people (teachers) do see the benefits. A few teachers said that once TAP was adopted, it supported the MSP processes and promoted acceptance by teachers and schools. They had to explain that this was not a “program” per se, but a shift in teaching approach.

8. *What do you think has been the most challenging part of the program for the district as a whole?*

The biggest challenge is just having enough manpower to do everything. “In a small district, all of us already wear many hats, even before we took on being Master Teachers.” That applies to district personnel as well who must find substitutes for MT to get time to do coaching and observing.

9. *What has been the most rewarding part of the program for you?*

One reward is to see teachers who were reluctant become more accepting (of feedback, learning) One MT said she almost did cartwheels when a teacher said “come on in to my classroom.” It is

a change to observe classes that do not have the teacher lecturing from the front. It is great to go into a classroom to see students enthusiastic, more engaged, enjoying what they are doing. It is good to see new students come to the classroom already knowing something about a subject because of the teacher in the prior grade prepared them.

10. How have things changed for the teachers you work with over the last year that you can attribute to the program?

In general, teachers have a greater ability and willingness to ask for help and a desire to learn. Now teachers “seek you out” for ideas and resources. Teachers have a better attitude. Classrooms are better equipped with more manipulatives, learning aids, etc. and the teachers really use these. Professional development has more offerings and more flexible choices.

11. How have things changed for the students in your school over the last year that you can attribute to the program?

Students are having a much richer learning experience now. They are benefitting from conceptual teaching/learning. They have a common vocabulary. Students are more reflective, partly because of journaling and getting a “closure ticket.” “I notice students giving one another feedback.”

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

We are being more collaborative and cohesive. “We are being more intentional and reflective, especially since we adopted TAP.” The two process support each other in that way. Master Teachers are leading in-house professional development. We are also growing other teachers to become leaders in our schools.

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

Now we come together to collaborate district-wide. The Master Teachers that conduct PD sessions are saving money for the district by not having to pay outside presenters.

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

For Master Teachers, this has been a different experience for elementary and high school teachers. Prior to the grant, leadership opportunities for elementary teachers were limited. One person said “It opened the door” for leadership roles. “This opportunity has set me up to take on new responsibilities, to grow me as a coach to others. It has helped me become a reflective practitioner. Now I create situations through relationships where I can be helpful (to other teachers). With experience, I am getting more organized, doing better time management.” Several teachers said that they hoped such opportunities for leadership, learning and growth continue after the end of the grant.

Master teachers reported a total of 600 observations, consultations and other contacts with teachers during the school year. These instances of instructional coaching were provided to 114 teachers, over a total of 1951 hours, which equals 17.1 hours per recipient teacher. Table 4 provides detailed information on the type of contact, number of hours and number of teachers

receiving each type of contact. The actual number is likely higher, since three master teachers did not report their activities.

Table 4: Instructional Coaching Provided in 2015-2016

	# Master Teachers	# Participating Teachers	Hours	Ave. Per Teacher
Action Planning	8	46	116	2.5
Classroom Observation	9	65	133	2.0
Coaching	13	64	213	3.3
Conferencing	11	39	90	2.3
Curriculum Planning	12	50	309	6.2
Lesson Planning	7	34	187	5.5
Resource Development	6	31	80	2.6
Standards Review	6	15	35	2.3
Training	6	43	168	3.9
Videotaping	1	2	2	1.0
Master Teacher Meetings	9	19	483	25.4
Other	4	32	198	6.2
Total	17	114	2016.00	17.7

Professional Development

In 2013-2014, 118 teachers received a total of 9,747 hours of professional development during the grant year (82.6 hours per teacher on average). In 2014-2015, 114 teachers received a total of 13,290 hours of professional development during the grant year (116.6 hours per teacher on average), an increase of 36%. In 2015-2016, 112 teachers received a total of 7,560 hours of professional development during the grant year (67.5 hours per teacher on average). (Detailed descriptions of the professional development may be found in Appendix Four).

Table 5: Professional Development Participation by Grant Year

	2013-2014				2014-2015			
	Trngs	Staff	Hours	Ave. Per Teacher	Trngs	Staff	Hours	Ave. Per Teacher
Summer Institute	9	32	2,280	71.3	8	30	2,400	80.0
Graduate Courses	5	18	1,080	60.0	13	26	2,100	80.8
District PD	14	86	6,387	74.3	14	95	8,790	92.5
Total	28	118	9,747	82.6	35	114	13,290	116.6
	2015-2016							
	Trngs	Staff	Hours	Ave. Per Teacher				
Summer Institute	2	8	480	60.0				
Graduate Courses	7	13	840	64.6				

District PD	12	91	6,240	68.6	
Total	21	112	7,560	67.5	

Summer Institute

Two different organizations provided Summer Institute professional development.

1. The ETV/ELearning SC provided five e-learning courses designed to support participants' instructional practices and increase their content knowledge.
2. Invent Now provided three experiences that explored teaching methods that help to develop critical thinkers and creative problem solvers. These hands-on inquiry-based workshops engaged educators in an experience that challenged participants to incorporate enhanced science, math, and creative problem solving-skills to foster growth in student achievement.

Graduate Courses

Thirteen different graduate courses were provided by The Citadel and USC-Aiken.

District Professional Development

District professional development falls into several different categories. These are:

1. Standards Support for Math and Science
2. Content Enrichment
3. Project Based Learning
4. Support for Master Teachers
5. S²TEM Centers Math and Science Classroom Support
6. Collaborative Action Research

Instructional Coaching

The instructional coaching uses the Cognitive CoachingSM model. Cognitive CoachingSM is a supervisory/peer coaching model that capitalizes upon and enhances cognitive processes. Art Costa and Bob Garmston, the founders of Cognitive CoachingSM, define it as a set of strategies, a way of thinking, and a way of working that invites self and others to shape and reshape their thinking and problem solving capabilities. This professional development was provided by S²TEM Centers.

Two courses were offered this contract year, Cognitive Coaching itself and Differentiated Adult Learning Program. The latter was limited to 20 MTs or Data Team Members who had completed Cognitive Coaching. Participants explored strategies for creating and sustaining an environment of learning in their school, district, or organization. Participants identified

differentiated learning activities for the adult learners in their buildings, as well as reviewed questioning and paraphrasing strategies for mediating thinking.

Process Objectives

Objective 1: By July of each year, at least 85% of HD1 and HD2 math & science teachers will engage in at least 60 hours of PD provided by IHEs, S²TEM Centers, and other certified instructors.

During the 2013-2014 grant year, teachers in HD1 completed an average of 4.4 professional development activities for an average of 107.3 hours per person. Of the 90 HD1 teachers, 85 (94.4%) completed 60 hours or more. Teachers in HD2 completed an average of 1.2 professional development activities for an average of 78.6 hours per person. Of the 29 HD2 teachers, 27 (93.1%) completed 60 hours or more. Overall, 94.1% of teachers in both HD1 and HD2 participated in 60 hours or more of professional development during the 2013-2014 grant year.

During the 2014-2015 grant year, teachers in HD1 completed an average of 1.9 professional development activities for an average of 132.2 hours per person. All 86 of the HD1 teachers (100%) completed 60 hours or more. Teachers in HD2 completed an average of 1.2 professional development activities for an average of 68.6 hours per person. Of the 28 HD2 teachers, 26 (92.9%) completed 60 hours or more. Overall, 98.2% of teachers in both HD1 and HD2 participated in 60 hours or more of professional development during the 2014-2015 grant year.

During the 2015-2016 grant year, teachers in HD1 completed an average of 1.03 professional development activities for an average of 63 hours per person. 70 of the 73 of the HD1 teachers (96%) completed 60 hours or more. Teachers in HD2 completed an average of 1.4 professional development activities for an average of 77 hours per person. All 23 of the HD2 teachers (100%) completed 60 hours or more. Overall, 96.9% of teachers in both HD1 and HD2 participated in 60 hours or more of professional development during the 2015-2016 grant year.

Objective 2a: By August 2013, HD1 will identify 9 MTs; HD2 3 MTs.

During the 2015-2016, HD1 and HD2 identified at least one Master Teacher for each school in their districts. (To some degree, some of the Master Teachers overlap with the MSP grant District 1 received in 2015-16.). A total of 14 Master Teachers from both grants were active in District 1 and three in District 2. **This objective was exceeded.**

Objective 2b: By December 2013, S²TEM Centers will train 3 HD2 MTs and new HD1 MTs to use the Cognitive Coaching Model.

From December 2, 2013 to March 11, 2014, the S²TEM Centers provided 60 contact hours of Cognitive Coaching training to the 14 Master Teachers, 11 of whom were from HD1 and three of whom were from HD2. **The objective was exceeded.**

Objective 3a: By January 2014, HD1 and HD2 will initiate training for content support and leadership teams including Vertical Teams for each school and across feeder systems in each district, and Grade-level Teams.

The teams were established and training conducted as described in the Professional Team section above. **This objective was met.**

Objective 3b: By July of each year, teachers selected for school/district teams will engage in at least 60 hours of leadership development PD.

In 2013-2014, it was not possible to measure this objective.

For the 2014-2015 grant year, the organization of the teams for the two districts was discussed previously and is portrayed in Table 3. All of the math and science teachers selected for the school/district teams engaged in 60 or more hours of professional development. It does not appear that any of the PD offerings were specific to leadership development; however, two of the PD offerings were specifically geared toward math and science standards support. Of the 43 math and science teachers who are on the CCSS (SCCCR Standards) School Implementation teams, 29 (67%) participated in PD geared toward standards support.

For the 2015-2016 grant year, the organization of the teams for the two districts was discussed previously and is portrayed in Table 3. All of the math and science teachers selected for the school/district teams engaged in 60 or more hours of leadership development in this year or previous years. **This objective was met**

Objective 4: By September of 2013, HD1 & HD2 will initiate training for SITs to develop each school's strategic plan for Math CCSS classroom implementation and to monitor content delivery and best practice use.

Training was initiated by September of 2013. **This objective was met.**

Objective 5a: By April of each year, the MTs will assist 100% of teachers with the development of an action plan with at least one goal for content growth and one goal for use of research-based best practices.

All teachers in HD1 and most teachers in HD2 were assisted and developed an action plan with at least one goal for content growth and one goal for use of research-based best practices. **This objective was met.**

Objective 5b: By June of each year, MTs will provide all teachers with at least 3 follow-up days of job-embedded PD guided by teacher’s action plans detailing their content PD and their goals.

HD1 master teachers did provide in excess of three days of job-embedded professional development. **This objective was met.**

Objective 6a: By June of 2014, the MTs, Vertical Teams, and Grade Level Teams will design a webpage and publish a digital packet of all PD materials and resources developed for dissemination and replication.

The webpage was designed and implemented. It may be found at <http://www.hampton1.org/domain/633>. The digital packet is password protected. **This objective was met.**

Objective 6b: By July 30 of Years 2 and 3, the MTs, Vertical Teams, and Grade Level Teams will publish all new PD materials and resources developed for dissemination and replication to the digital packet.

This activity occurred. **This objective was met.**

FINDINGS PART II: OUTCOME EVALUATION

The outcome objective and its performance measures were to be measured in the second and third year of the grant.

Objective 7: Improved Student Achievement In Mathematics And Science

PERFORMANCE MEASURE

By June of Years 2 and 3, grade level attainment in math & science on state exams will improve by at least 3% annually compared to 2013-2014 baseline data to narrow the gap between HD1 and HD2 and state averages. 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 2013 – 2014 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 2013-2014 baseline data.

In 2013-2014, which is the baseline year for this grant, math PASS grade level achievement in HD1 was between 13.6 points under to 1.5 points over grade level achievement for the state. Math PASS grade level achievement in HD2 was between 43.4 points under to 15.2 points under grade level achievement for the state. A comparison of HD1's 2014 grade level achievement to grade level achievement in 2009-2010 (the year prior to the district's first MSP grant) shows that grade level achievement improved by 6.6 points for third graders, 2.2 points for fourth graders, 9.2 points for fifth graders, 6.3 points for sixth graders, and 7.4 points for eighth graders. Grade level achievement for seventh graders declined by 2.7 points.

In 2014-2015, the state changed the Math Assessment from the PASS to the ACT Aspire. The percent of students who met or exceeded the standard on the math PASS in 2014 is presented for illustrative purposes, but tests scores on these two tests are not comparable for individual students. Furthermore, the gap in 2015 between Hampton Districts One and Two and the State as a whole is not comparable to the gap in 2014. Test score data was not received from HD2 in time to be included in this evaluation. Because of the change in the assessment, progress toward meeting the objective of improvement in student achievement could not be measured. The 2015 Math ACT Aspire test scores will be used as a baseline for the 2015-2016 evaluation.

Math ACT Aspire grade level achievement in HD1 was between 5.2 points to 13.7 points under grade level achievement for the state. In particular, 52.8% of third graders in HD1 scored ready or exceeding on the math ACT Aspire test, compared to 58% across the state. Amongst fourth graders, 40.2% in HD1 scored ready or exceeding on the math ACT Aspire test, compared to

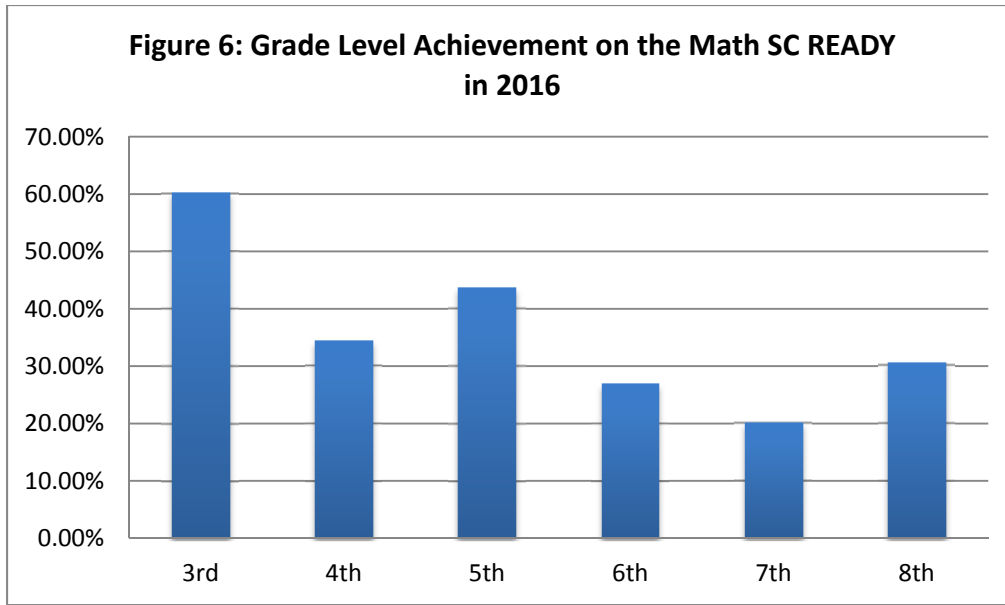
49.4% across the state. Amongst fifth graders, 42% in HD1 scored ready or exceeding on the math ACT Aspire test, compared to 48.2% across the state. Amongst sixth graders, 47% in HD1 scored ready or exceeding on the math ACT Aspire test, compared to 53.2% across the state. Amongst seventh graders, 25.8% in HD1 scored ready or exceeding on the math ACT Aspire test, compared to 36.4% across the state. Amongst eighth graders, 18.3% in HD1 scored ready or exceeding on the math ACT Aspire test, compared to 32% across the state. (See Table 6 and Figure 6.)

In 2015-2016, the state changed the Math Assessment from the ACT Aspire to the SC READY. The percent of students who met or exceeded the standard on the math SC READY in 2016 is presented for illustrative purposes, but tests scores on these two tests are not comparable for individual students. Because of the change in the assessment, progress toward meeting the objective of improvement in student achievement could not be measured. Due to a hurricane and the subsequent closing of the State office for over a week, state level assessment data was not available in time for this report. This report will be amended as soon as possible to complete comparisons for the 2015-2016 grant year. In addition, limited assessment data was received from HD2. The report will be modified as soon as possible to include additional HD2 data.

Sixty point three percent of third graders in HD1 scored ready or exceeding on the math SC Ready test. Amongst fourth graders, 34.4% in HD1 scored ready or exceeding on the math SC Ready test. Amongst fifth graders, 43.7% in HD1 scored ready or exceeding on the math SC Ready test. Amongst sixth graders, 27% in HD1 scored ready or exceeding on the math SC Ready test. Amongst seventh graders, 20.1% in HD1 scored ready or exceeding on the math SC Ready test. Amongst eighth graders, 30.6% in HD1 scored ready or exceeding on the math SC Ready test. (See Table 6 and Figure 6.) Compared to 2013-2014 scores, all grade levels had smaller percentages of students achieving met or above on the math state assessment in 2015-2016. However, since the assessments are considerably different in their content, math scores are not really comparable.

Table 6: Grade Level Achievement on Math PASS, ACT Aspire, and SC Ready

	HD1			HD2		
	2014 %Met or Above	2015 %Met or Above	2016 %Met or Above	2014 %Met or Above	2015 %Met or Above	2016 %Met or Above
3rd Grade	73.1%	52.8%	60.3%	40.6%	42.6%	32.7%
4th Grade	72.4%	40.2%	34.4%	59.2%	32.1%	21.3%
5th Grade	64.6%	42.0%	43.7%	60.3%	26.2%	18.2%
6th Grade	67.6%	47.0%	27.0%	33.8%	39.6%	26.5%
7th Grade	55.5%	25.8%	20.1%	25.7%	6.5%	12.3%
8th Grade	65.3%	18.3%	30.6%	26.9%	1.6%	6.5%



In 2013-2014, which is the baseline year for this grant, science PASS grade level achievement in HD1 was between 13.5 points under to 0.4 points over grade level achievement for the state. Science PASS grade level achievement in HD2 was between 54.9 points under to 0.1 points under grade level achievement for the state. A comparison of HD1's current grade level achievement to grade level achievement in 2009-2010 (the year prior to the district's first MSP grant) shows that grade level achievement improved by 9.5 points for third graders, 2.9 points for fifth graders, 16.4 points for sixth graders, and 12.2 points for eighth graders. Grade level achievement for fourth graders declined by a negligible 0.8 and achievement for seventh graders has declined by 14 points.

In 2014-2015, the state began the process of potentially changing the Science Assessment from the PASS to the ACT Aspire. The Science PASS was administered in 2015, but in future years, it was possible the state would utilize the ACT Aspire Science Assessment. The Science PASS was not administered to third graders in 2015. Test score data was not received from HD2 in time to be included in this evaluation. In 2014-2015, science PASS grade level achievement in HD1 was between 0.6 points over and 16.7 points under grade level achievement for the state.

In particular, 67.6% of fourth graders in HD1 scored met or above on the science PASS test, compared to 69.9% across the state. Amongst fifth graders, 66.9% in HD1 scored met or above on the science PASS test, compared to 66.3% across the state. Amongst sixth graders, 49.2% in HD1 scored met or above on the science PASS test, compared to 63.6% across the state. Amongst seventh graders, 59.2% in HD1 scored met or above on the science PASS test, compared to 68.2% across the state. Amongst eighth graders, 48.5% in HD1 scored met or above on the science PASS test, compared to 65.2% across the state. (See Table 7 and Figure 7.)

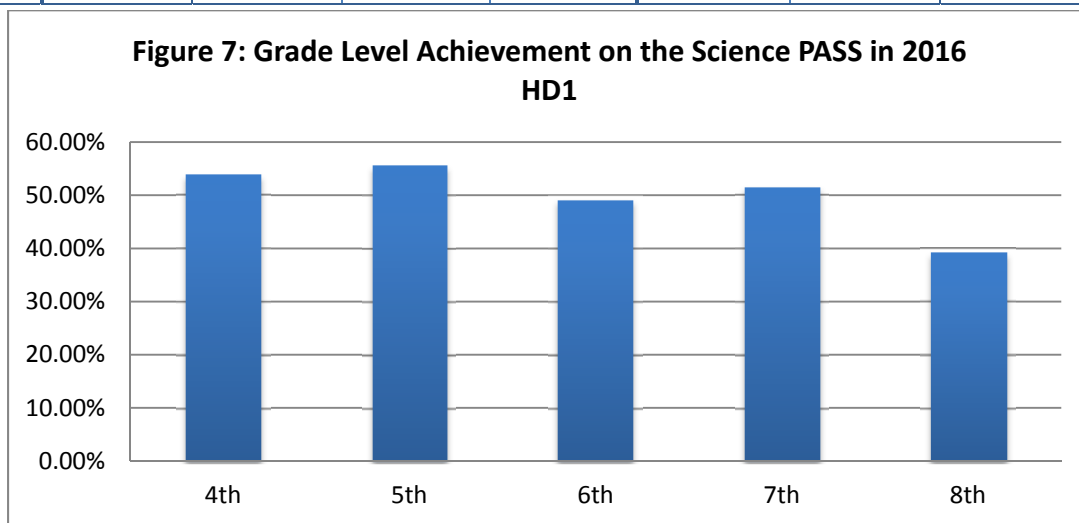
In 2015-2016, the state again administered the Science PASS. The Science PASS was not administered to third graders in 2016. In 2015-2016, 53.8% of fourth graders in HD1 scored met or above on the science PASS test. Amongst fifth graders, 55.6% in HD1 scored met or above

on the science PASS test. Amongst sixth graders, 49.1% in HD1 scored met or above on the science PASS test. Amongst seventh graders, 51.5% in HD1 scored met or above on the science PASS test. Amongst eighth graders, 39.2% in HD1 scored met or above on the science PASS test. (See Table 7 and Figure 7.)

Compared to 2013-2014, students at all grade levels in HD1 scored lower in 2015-2016 on the science PASS while scores in HD2 improved for the 5th, 7th and 8th grades. Science PASS met or above percentages were from 10.1% to 46.1% lower than the state grade level achievement. Science PASS grade level achievement in HD2 was from 3.3% to 48.0% lower than the state grade level achievement.

Table 7: Grade Level Achievement on Science PASS Test

	HD1				HD2			
	2014 %Met or Above	2015 %Met or Above	2016 %Met or Above	Gap	2014 %Met or Above	2015 %Met or Above	2016 %Met or Above	Gap
3rd Grade	63.8%	n/a	n/a	n/a	32.2%	n/a	n/a	n/a
4th Grade	63.6%	67.6%	53.8%	11.2%	40.8%	46.4%	23.0%	42.0%
5th Grade	59.6%	66.9%	55.6%	10.1%	23.1%	40.5%	27.7%	48.0%
6th Grade	58.4%	49.2%	49.1%	23.1%	65.6%	50.0%	58.8%	3.3%
7th Grade	60.1%	59.2%	51.5%	19.1%	27.2%	37.7%	33.3%	37.3%
8th Grade	62.2%	48.5%	39.2%	46.1%	14.3%	14.3%	25.8%	40.4%



High school students in Hampton District One and Two completed the state’s standardized End of Course Exams (EOC) exams in Algebra and Biology. In 2014, students completed the South Carolina High School Assessment Program (HSAP). This requirement was eliminated beginning with the class of 2015. Beginning in Spring 2015, all eleventh grade students took the ACT test. Passing grades for the EOC were scores of 70 or higher. Score categories on the ACT are either Not Ready or Ready.

In 2013-2014, which is the baseline year for this grant, Hampton District One high school students' achievement on state tests was between 13.8 points under to 18.7 points under achievement for the state. Hampton District Two high school students' achievement was between 56.7 points under to 39.1 points under achievement for the state.

In particular, 67.5% of test-takers in HD1 and 28.8% of test-takers in HD2 scored 70 or above on the algebra EOC exam, compared to 85.5% across the state. On the biology EOC, 64.9% in HD1 and 39.1% in HD2 scored 70 or above, compared to 78.7% across the state. On the math HSAP, 60% in HD1 and 33.3% in HD2 scored a 2 or above, compared to 78.7% across the state.

A comparison of HD1's achievement in 2014-2015 to achievement in 2013-2014 (the baseline year) shows that high school students' rate of achievement has improved by 13.3 points on the algebra EOC, reducing the gap between the district and statewide achievement to only 4.7 points. Achievement on the biology EOC declined by 6.4 points, which is a gap of 20.2 points between the district and statewide achievement. For HD2, achievement on the algebra EOC increased by 4.5 points, reducing the gap to 52.2 points, and achievement on the biology EOC decreased by 21.9 points, increasing the gap to 61 points.

On the math ACT, 4.4% of eleventh grade students in HD1 and 2.1% of eleventh grade students in HD2 scored ready, which is a gap of 17.2 and 19.5 points, respectively, from state achievement. On the science ACT, 2.5% of eleventh grade students in HD1 and 0% of eleventh grade students in HD2 scored ready, which is a gap of 15.4 and 17.9 points, respectively, from state achievement.

In 2015-2016, 51.3% of test-takers in HD1 scored 70 or above on the algebra EOC exam. The overall mean score (n=198) was 70.8. On the biology EOC, 72.8% in HD1 scored 70 or above with an overall mean score (n=179) of 79.3. In 2015-2016, 45.4% of test-takers in HD2 scored 70 or above on the algebra EOC exam with an overall mean score (n=55) was 69.7. On the biology EOC, 42.7% in HD2 scored 70 or above with an overall mean score (n=65) of 64.5. This compares to 81.9% of students statewide scoring 70 or above on the algebra EOC exam with a mean score of 81.9. On the biology exam, the statewide percentage scoring 70 or above was 42.7 with a mean score of 75.7.

A comparison of HD1's current achievement to achievement in 2013-2014 shows that high school students' rate of achievement has decreased on the algebra EOC, with 16.2% fewer students earning met or above. Achievement on the biology EOC increased, with 7.9% more students earning met or above. The same comparison for HD2 shows an increase of 16.6% on the algebra EOC and a 11.9% on the biology EOC. The math and biology HSAPs were not administered in 2016, and ACT data were not available at the time of the report.

Figure 8: Achievement on High School State Tests in 2016

	HD1			HD2			State
	2014 %Met or Above	2015 %Met or Above	2016 %Met or Above	2014 %Met or Above	2015 %Met or Above	2016 %Met or Above	%Met or Above
Algebra EOC	67.5%	80.8%	51.3%	28.8%	33.3%	45.4%	81.9%
Biology EOC	64.9%	58.5%	72.8%	39.6%	17.7%	27.7%	75.7%
Math ACT	-	4.4%	-	-	2.1%	-	n/a
Science ACT	-	2.5%	-	-	0.0%	-	n/a

The change in math assessments each year of the grant makes drawing conclusions about changes in scores for elementary and middle school students unrealistic. For science, there was a decrease in the percentage of elementary and middle school students scoring met or above in HD1 compared to the baseline year, but an increase in three of the five grades tested for HD2. For high school students, there was a reduction in scores on the algebra EOC in HD1, while HD2 students exhibited an improvement of more than 3% per year. The opposite was true for biology EOC, with HD1 students showing a more than 3% per year improvement and HD2 students exhibiting a decrease in met and above scores. **This objective was partially met.**

FINDINGS PART III: IMPACT OF THE PROJECT ON TEACHER PRACTICES

Increased Content Knowledge

The math content knowledge assessment was administered to teachers using the Study Island software in August of each year. In 2013-2014, the 89 teachers who completed the math pre and post-test scored an average of 87.6 on the pre-test and an average of 93.06 on the post test. The average difference of 5.5 points is statistically significant ($t=7.124$, $df=88$, $p<0.001$). In 2014-2015, the 87 teachers who completed the math pre and post-test scored an average of 87.9 on the pre-test and an average of 93.9 on the post test. The average difference of 6.0 points is statistically significant ($t=5.47$, $df=86$, $p<0.001$). In 2015-2016, the 82 teachers who completed the math pre and post-test scored an average of 87.0 on the pre-test and an average of 90.4 on the post test. The average difference of 3.4 points is statistically significant ($t=1.66$, $df=81$, $p<0.001$). Therefore, teachers in HD1 and HD2 significantly improved their math content knowledge during the grant years.

The science content knowledge assessment was also administered to teachers using the Study Island software in August of each year. The 26 teachers who completed the science pre and post-test scored an average of 75.0 on the pre-test and an average of 86.9 on the post test. The average difference of 11.8 points is statistically significant ($t=2.86$, $df=25$, $p=0.002$). In 2015-2016, the 26 teachers who completed the science pre and post-test scored an average of 81.2 on the pre-test and an average of 88.2 on the post test. The average difference of 7 points is ($t=1.71$, $df=25$, $p<0.002$). Therefore, teachers in HD1 and HD2 significantly improved their science content knowledge during the grant year.

Use of Endorsed Pedagogical Practices

Use of endorsed pedagogical practices was measured using a six question survey of master teachers and administrators who observed classroom teachers. The survey was completed by master teachers in HD1. Master teachers in HD2 did not complete the survey in this grant year. The survey was completed by master teachers during a specific time frame in the fall and again in the following spring. For each item, the master teacher was instructed to rate the teacher on a scale of 1 to 5, where 1 equals not at all and 5 equals all the time.

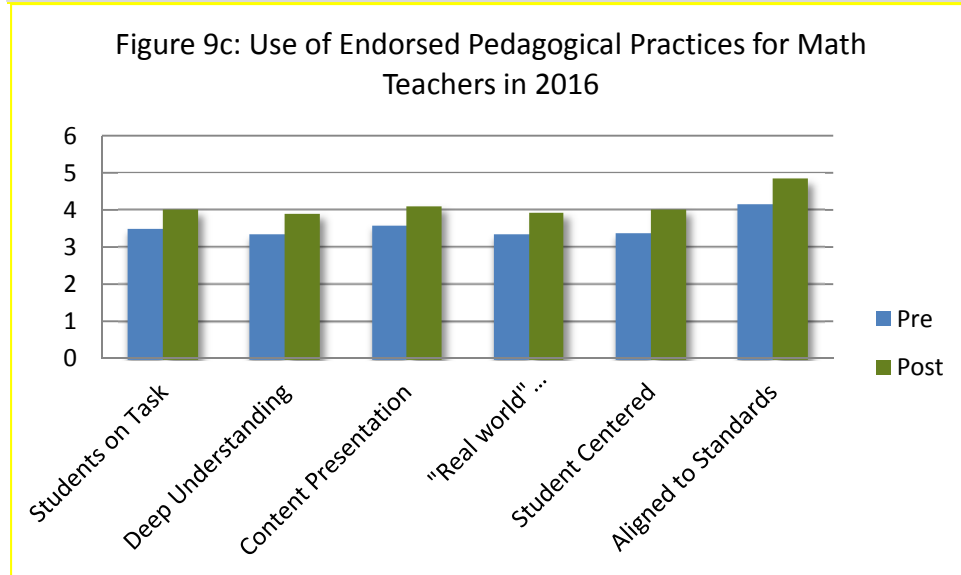
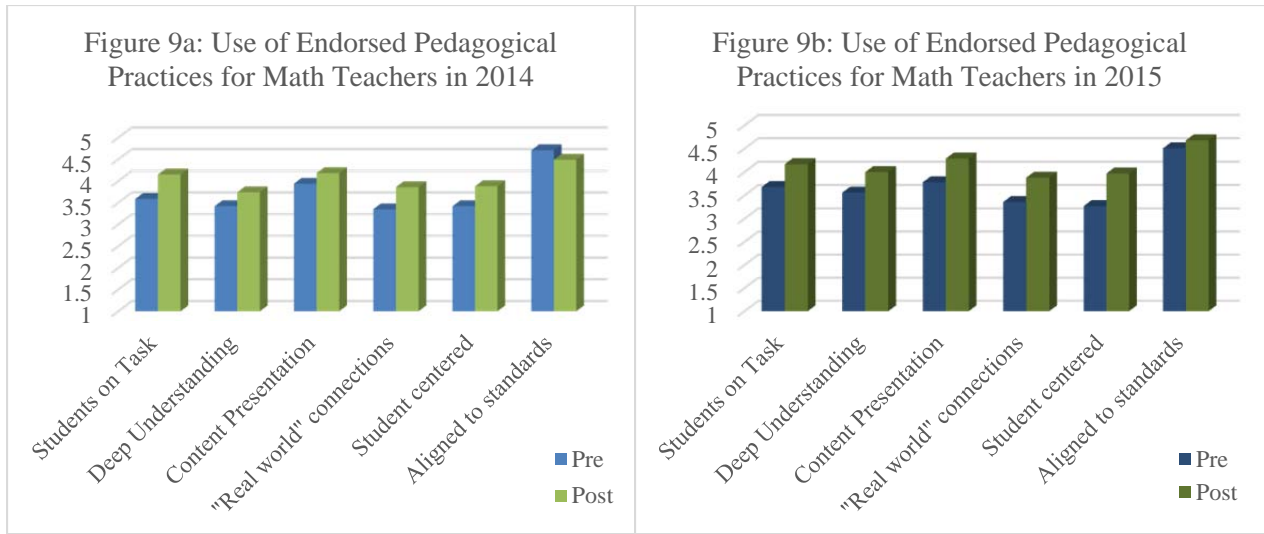
For math teachers in 2013-2014, observation data shows significant improvement in the use of endorsed pedagogical practices. At the pre-assessment, student involvement was between sometimes and often (mean=3.59, $n=66$, $sd=0.8$) and at the post-assessment, student involvement was slightly better than often (mean=4.15, $n=66$, $sd=0.68$), which is a statistically significant improvement ($t=6.91$, $df=65$, $p<0.001$). Teachers improved in their ability to foster deep conceptual understanding by an average of 0.32 points ($t=4.62$, $df=65$, $p<0.001$), present content accurately and fluidly by 0.24 points ($t=2.8$, $df=65$, $p=0.007$), make connections to the real world by 0.52 points ($t=6.3$, $df=65$, $p<0.001$), and provide student-centered instruction by 0.46 points ($t=6.06$, $df=64$, $p<0.001$). The observations did note a significant average decline of 0.22 points in instruction that was aligned to current academic standards ($t=-2.12$, $df=64$, $p=0.038$).

For math teachers in 2014-2015, observation data shows significant improvement in the use of endorsed pedagogical practices. At the pre-assessment, student involvement was between sometimes and often (mean=3.68, n=77, sd=0.75) and at the post-assessment, student involvement was slightly better than often (mean=4.17, n=77, sd=0.77), which is a statistically significant improvement ($t=7.23$, $df=76$, $p<0.001$). Teachers improved in their ability to foster deep conceptual understanding by an average of 0.44 points ($t=5.88$, $df=76$, $p<0.001$), present content accurately and fluidly by 0.51 points ($t=6.72$, $df=76$, $p<0.001$), make connections to the real world by 0.52 points ($t=5.78$, $df=76$, $p<0.001$), and provide student-centered instruction by 0.7 points ($t=8.69$, $df=76$, $p<0.001$). Whereas in the previous year, the observations noted a significant average decline in instruction that was aligned to current academic standards, in this year there was a significant average improvement of 0.17 points in instructions that was aligned to current academic standards ($t=2.59$, $df=75$, $p=0.011$). (See Table 9 and Figures 9a and 9b.)

For math teachers in 2015-2016, observation data shows significant improvement in the use of endorsed pedagogical practices. At the pre-assessment, student involvement was between sometimes and often (mean=3.48, n=58, sd=0.66) and at the post-assessment, student involvement was often (mean=4.00, n=58, sd=0.59), which is a statistically significant improvement ($t=6.27$, $df=57$, $p<0.001$). Teachers improved in their ability to foster deep conceptual understanding by an average of 0.45 points ($t=6.43$, $df=57$, $p<0.001$), present content accurately and fluidly by 0.51 points ($t=4.78$, $df=58$, $p<0.001$), make connections to the real world by 0.58 points ($t=4.95$, $df=58$, $p<0.001$), and provide student-centered instruction by 0.64 points ($t=5.58$, $df=58$, $p<0.001$). As with the previous year, the observations noted a significant average improvement of 0.68 points in instructions that was aligned to current academic standards ($t=7.65$, $df=58$, $p=0.011$). (See Table 9 and Figures 9a, 9b, and 9c.)

Table 9: Change in Use of Endorsed Pedagogical Practices for Math Teachers

	2013-2014			2014-2015			2015-2016		
	Pre	Post	p	Pre	Post	p	Pre	Post	p
The students were on task and involved	3.59	4.15	<0.001	3.68	4.17	<0.001	3.48	4.00	<.001
The teacher fostered deep conceptual understanding	3.42	3.74	<0.001	3.56	4.00	<0.001	3.35	3.83	<.001
Content was presented accurately and fluidly	3.94	4.18	0.007	3.78	4.29	<0.001	3.57	4.06	<.001
Connections were made to the "real world"	3.35	3.86	<0.001	3.36	3.88	<0.001	3.35	3.89	<.001
Instruction was student centered	3.42	3.88	<0.001	3.27	3.97	<0.001	3.29	3.89	<.001
Instruction was aligned to current academic standards	4.71	4.49	0.038	4.51	4.68	0.011	4.17	4.82	<.001



For science teachers in 2013-2014, observation data shows significant improvement in the use of endorsed pedagogical practices. Student involvement improved from sometimes (mean=3.65, n=57, sd=0.79) to slightly better than often (mean=4.16, n=57, sd=0.68), which is a statistically significant improvement ($t=5.84$, $df=56$, $p<0.001$). Teachers improved in their ability to foster deep conceptual understanding by an average of 0.35 points ($t=4.81$, $df=56$, $p<0.001$), present content accurately and fluidly by 0.23 points ($t=2.21$, $df=56$, $p=0.031$), make connections to the real world by 0.51 points ($t=5.84$, $df=56$, $p<0.001$), and provide student-centered instruction by 0.45 points ($t=5.3$, $df=55$, $p<0.001$). Observers noted an average decline of 0.2 points in instruction that was aligned to current academic standards; however, the difference is not statistically significant ($t=-1.8$, $df=55$, $p=0.078$).

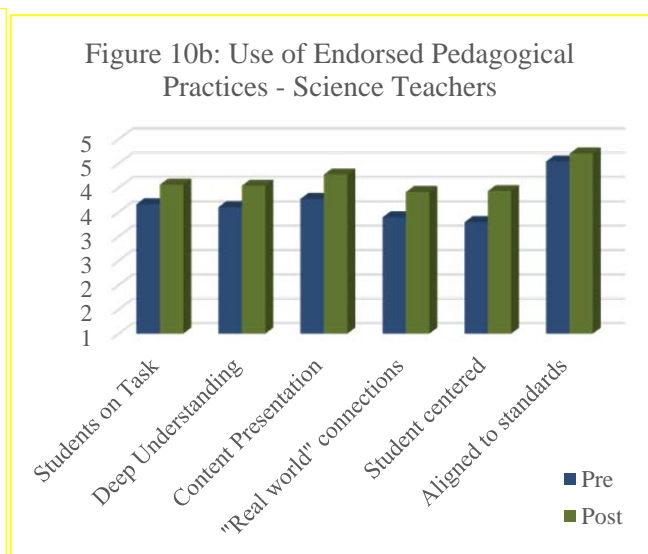
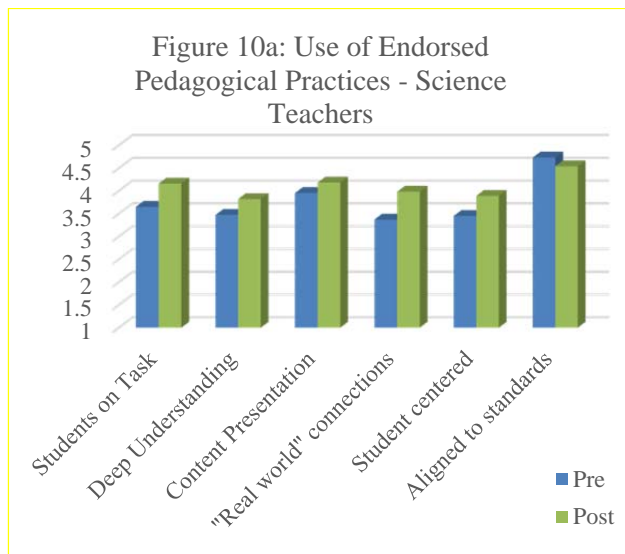
For science teachers in 2014-2015, observation data shows significant improvement in the use of endorsed pedagogical practices. Student involvement improved from sometimes (mean=3.66, n=70, sd=0.72) to slightly better than often (mean=4.06, n=70, sd=0.81), which is a statistically significant improvement ($t=5.37$, $df=69$, $p<0.001$). Teachers improved in their ability to foster

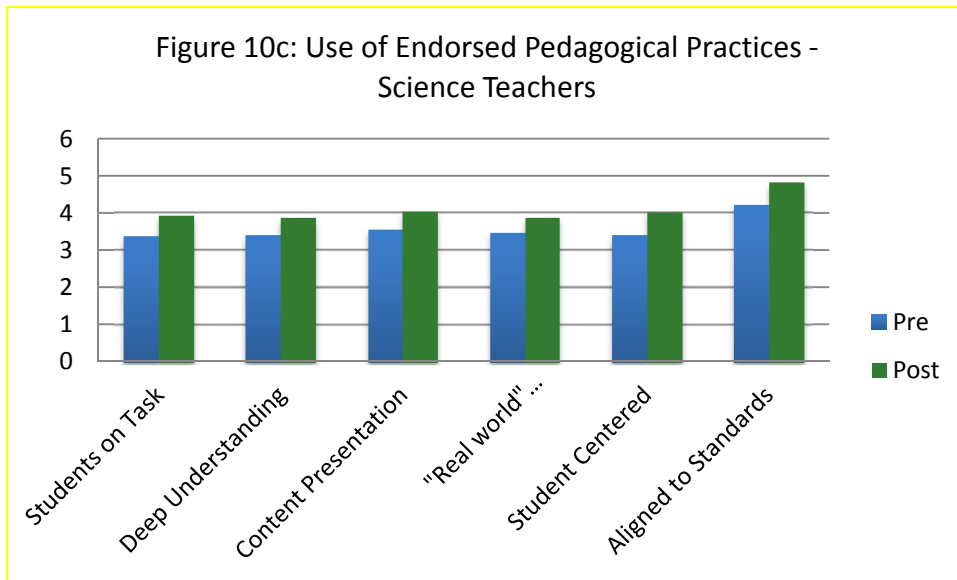
deep conceptual understanding by an average of 0.44 points ($t=5.89$, $df=69$, $p<0.001$), present content accurately and fluidly by 0.5 points ($t=6.4$, $df=69$, $p<0.001$), make connections to the real world by 0.53 points ($t=5.57$, $df=69$, $p<0.001$), and provide student-centered instruction by 0.64 points ($t=7.24$, $df=69$, $p<0.001$). In contrast to the previous year, observers in 2014-2015 noted a significant improvement of 0.16 points in teachers' ability to align instruction to the current academic standards ($t=2.27$, $df=68$, $p=0.027$). (See Table 10 and Figures 10a and 10b.)

For science teachers in 2015-2016, observation data shows significant improvement in the use of endorsed pedagogical practices. Student involvement improved from sometimes (mean=3.39, $n=41$, $sd=0.67$) to nearly often (mean=3.93, $n=41$, $sd=0.72$), which is a statistically significant improvement ($t=5.77$, $df=40$, $p<0.001$). Teachers improved in their ability to foster deep conceptual understanding by an average of 0.46 points ($t=4.38$, $df=41$, $p<0.001$), present content accurately and fluidly by 0.48 points ($t=3.99$, $df=41$, $p<0.001$), make connections to the real world by 0.40 points ($t=2.88$, $df=41$, $p=0.006$), and provide student-centered instruction by 0.62 points ($t=4.55$, $df=41$, $p<0.001$). As in the previous year, observers in 2015-2016 noted a significant improvement of 0.60 points in teachers' ability to align instruction to the current academic standards ($t=5.51$, $df=41$, $p<0.001$). (See Table 10 and Figures 10a, 10b, and 10c.)

Table 10: Change in Use of Endorsed Pedagogical Practices for Science Teachers

	2013-2014			2014-2015			2015-2016		
	Pre	Post	p	Pre	Post	p	Pre	Post	p
The students were on task and involved	3.65	4.16	<0.001	3.66	4.06	<0.001	3.39	3.93	<0.001
The teacher fostered deep conceptual understanding	3.47	3.82	<0.001	3.60	4.04	<0.001	3.40	3.86	<0.001
Content was presented accurately and fluidly	3.95	4.18	0.031	3.77	4.27	<0.001	3.57	4.05	<0.001
Connections were made to the "real world"	3.37	3.98	<0.001	3.39	3.91	<0.001	3.48	3.88	0.006
Instruction was student centered	3.45	3.89	<0.001	3.29	3.93	<0.001	3.40	4.02	<0.001
Instruction was aligned to current academic standards	4.73	4.54	0.078	4.54	4.70	0.027	4.21	4.81	<0.001





Change in Student Academic Achievement

The impact of the project on student academic achievement was to be measured by comparing state standardized test scores for Hampton Districts One (HD1) and Two (HD2) to the state standardized test scores of a comparison district, Bamberg District One (BD1). However, BD1 received an MSP grant for school year 2015-2016, making a fair comparison impossible. Therefore, the 2014-15 comparison is reported herein.

Baseline Equivalence

During the first year of the evaluation, the baseline equivalence of the comparison group to the experimental group was measured to determine and prepare for any significant differences in teacher credentials, student demographics, and student academic achievement.

To begin, it must first be noted that the size of the districts are slightly different. HD1 serves approximately 2,400 students each year; whereas HD2 serves approximately 900 students and BD1 serves approximately 1,400. Both HD2 and BD1 have only three schools (one elementary, one middle, and one high school); whereas HD1 has seven primary and elementary schools, one middle and one high school.

HD1 is somewhat similar to BD1 in terms of teacher qualifications and district characteristics. Both districts have approximately the same proportion of returning teachers ($z=-1.024$, $p=0.472$), average teacher salary ($z=1.858$, $p=0.064$), and professional development days per teacher ($z=1.54$, $p=0.125$). BD1 has a slightly higher percentage of teachers with advanced degrees at 67.8%, compared to 61.8% in HD1, but the difference is not statistically different ($z=-0.947$, $p=0.509$). BD1 has a significantly higher student to teacher ratio in core subjects ($z=-2.357$, $p=0.019$) and spent approximately \$464 more per pupil ($z=-11.691$, $p<0.001$).

In terms of student demographics, BD1 has a racial makeup that is similar to HD1 (57.2% of students in HD1 and 59% in BD1 are minority - $z=-1.09$, $p=0.441$). However, HD1 has a larger proportion of students receiving free or reduced price meals (FRPM) ($z=4.191$, $p<0.001$), and thus also has a significantly higher poverty index ($z=2.027$, $p=0.043$). BD1 has a larger proportion of students with disabilities other than speech ($z=-5.013$, $p<0.001$).

HD2 is vastly different from HD1 and BD1 on many of the measures of teacher qualifications, district characteristics and student demographics, though tests of significance were not performed. In particular, HD1 has a much lower percentage of returning teachers (71.6%), lower average teacher salary (\$42,596), higher student to teacher ratio in core subjects (29.6 to 1), more dollars spent per pupil (\$13,560), greater proportion of students with disabilities other than speech (15.4%), greater proportion of minority students (98.4%), greater proportion of students receiving free or reduced price meals (90.6%), and higher rate of poverty (97.24). These differences make it difficult to use BD1 as a comparison for HD2, and therefore a different district should be sought out for comparison with HD2.

Figure 11: Baseline Equivalence of Teacher Qualifications, District Characteristics, and Student Demographics

	HD1		HD2		Bamberg 1		HD1-BD1	
	X	N	X	N	X	N	z/t	P
Advanced Degrees ¹	61.8%	170	60.0%	65	67.8%	87	-0.947 ^a	0.509
Returning Teachers ¹	88.7%	170	71.6%	65	92.7%	87	-1.024 ^a	0.472
Average Teacher Salary ¹	45498	170	42596	65	45398	87	1.858 ^b	0.064
PD Days/Teacher ¹	13.2	170	9.7	65	9.7	87	1.540 ^b	0.125
S:T Ratio Core ¹	16.4	170	29.6	65	20.7	87	-2.357 ^b	0.019
\$ Per Pupil ¹	9360	2383	13560	915	9824	1382	-11.691 ^b	<0.001
% Disabilities ¹	8.6%	2383	15.4%	915	13.8%	1382	-5.013 ^a	<0.001
% Minority ²	57.2%	2453	98.4%	873	59.0%	1407	-1.090 ^a	0.441
% FRPM ²	74.2%	2453	90.6%	873	67.9%	1407	4.191 ^a	0.000
Poverty Index ³	85.09	2453	97.24	873	77.64	1407	2.027 ^b	0.043

¹ Source: 2013 Annual Report Card. <http://ed.sc.gov/data/report-cards/2013/index.cfm>

² Source: 2013-2014 135-day head count. http://ed.sc.gov/data/student-counts/Student_Headcounts/ActiveStudentHeadcounts.cfm

³ Source: 2013 SC Poverty Index Data File. http://ed.sc.gov/data/report-cards/2013/documents/2013_Report_Card_Poverty_Index.xls

^a Test of significance is based on the Normal approximation to the binomial distribution and is calculated using the z value.

^b Test of significance is calculated using the pooled two-sample t procedure. Variance for the x statistics within each school was unknown. The variance for all districts in the state was calculated using the data sources described above and substituted as a proxy measure of variance.

Overall, the proportion of students in HD1 who scored met or above on the math PASS (66.5%) is similar to the proportion in BD1 (64.3%) ($z=-0.547$, $p=0.687$). In contrast, only 39.4% of students in HD2 scored met or above. Grade level achievement on the math PASS in 2014 is similar for BD1 as for HD1, except in third grade ($z=3.016$, $p=0.008$) and seventh grade ($z=-4.412$, $p<0.001$). In HD1, 73.1% of third graders scored met or above compared to 55.8% of third graders in BD1, and 55.5% of seventh graders in HD1 scored met or above compared to 80.8% of seventh graders in BD1. The proportion of HD2 students in each grade level who scored met or above is smaller than the proportion in the other two districts except in fifth grade, where the proportion was similar. In HD2, 60.3% of fifth graders scored met or above, which is similar to the 64.6% in HD1 and 63.8% in BD1. Tests of significance for BD2 were not performed due to the large differences in baseline characteristics for this district.

Figure 12: Comparison of Grade Level Achievement on Math PASS Test in 2014

	HD1		HD2		Bamberg 1		HD1-BD1	
	%Met or Above	N	%Met or Above	N	%Met or Above	N	z ^a	P
3rd Grade	73.1%	190	40.6%	59	55.8%	104	3.016	0.008
4th Grade	72.4%	170	59.2%	49	75.9%	91	-0.611	0.662
5th Grade	64.6%	178	60.3%	53	63.8%	113	0.139	0.790
6th Grade	67.6%	191	33.8%	65	66.7%	99	0.155	0.788
7th Grade	55.5%	173	25.7%	70	80.8%	114	-4.412	<0.001
8th Grade	65.3%	190	26.9%	67	64.3%	115	0.177	0.785
Total	66.5%	1092	39.4%	363	67.8%	636	-0.547	0.687

^a Test of significance is based on the Normal approximation to the binomial distribution and is calculated using the z value.

Overall, the proportion of students in HD1 who scored met or above on the science PASS (61.4%) is significantly less than the proportion in BD1 (71.6%) ($z=-3.483$, $p=0.002$). However, grade level achievement on the science PASS in 2014 is statistically similar for BD1 as for HD1 in all grade levels, though the percentage of HD1 students in grades 4 through 8 who scored met or above is smaller than the percentage of BD1 students in these grades. These minor grade level differences are what constitute the significant difference overall.

In contrast, only 33.3% of students in HD2 scored met or above. The proportion of HD2 students in each grade level who scored met or above is smaller than the proportion in the other two districts except in sixth grade, where the proportion was similar. In HD2, 65.6% of sixth graders scored met or above, which is greater than the 58.4% in HD1 and less than the 76% in BD1. Tests of significance for BD2 were not performed due to the large differences in baseline characteristics for this district.

Figure 13: Comparison of Grade Level Achievement on Science PASS Test in 2014

	HD1		HD2		Bamberg 1		HD1-BD1	
	%Met or Above	N	%Met or Above	N	%Met or Above	N	z^a	P
3rd Grade	63.8%	94	32.2%	31	59.6%	52	0.502	0.704
4th Grade	63.6%	170	40.8%	49	77.0%	91	-2.215	0.069
5th Grade	59.6%	89	23.1%	26	68.4%	57	-1.074	0.448
6th Grade	58.4%	96	65.6%	32	76.0%	50	-2.107	0.087
7th Grade	60.1%	173	27.2%	70	72.8%	114	-2.210	0.069
8th Grade	62.2%	98	14.3%	35	70.7%	58	-1.078	0.446
Total	61.4%	720	33.3%	243	71.6%	422	-3.483	0.002

^a Test of significance is based on the Normal approximation to the binomial distribution and is calculated using the z value.

On all three high school tests, a significantly smaller proportion of HD1 students met or exceeded the examination requirements than did BD1 students. On the Algebra EOC, 67.5% of HD1 students scored 70 or better on the exam, compared to 88.3% of BD1 students ($z=-4.114$, $p<0.001$). On the Biology EOC, 64.9% of HD1 students scored 70 or better on the exam, compared to 89.5% of BD1 students ($z=-4.163$, $p<0.001$). On the Math HSAP, 60% of HD1 students scored 2 or better on the exam, compared to 79% of BD1 students ($z=-3.006$, $p=0.009$). A much smaller percentage of students in HD2 met or exceeded the examination requirements than did HD1 or BD1 students; however, tests of significance were not performed.

Figure 14: Comparison of Achievement on High School State Tests in 2014

	HD1		HD2		Bamberg 1		HD1-BD1	
	%Met or Above	N	%Met or Above	N	%Met or Above	N	z^a	P
Algebra EOC	67.5%	178	28.8%	59	88.3%	120	-4.114	<0.001
Biology EOC	64.9%	157	39.6%	58	89.5%	86	-4.163	<0.001
Math HSAP	60.0%	185	33.3%	60	79.0%	81	-3.006	0.009

^a Test of significance is based on the Normal approximation to the binomial distribution and is calculated using the z value.

Based on this analysis, change in student achievement in BD1 will be a suitable comparison for the change in student achievement within HD1. Analysis will need to be conducted on student-level data, comparing 2014 scores to 2015 scores and accounting for differences in student demographics, particularly free and reduced price meals and special needs, and differences in teacher and district characteristics.

Hampton District Two is vastly different in student demographics, teacher qualifications, and district characteristics from both Hampton District One and Bamberg District Two. For this reason, HD2 is not included in the comparison until an appropriate comparison district can be identified.

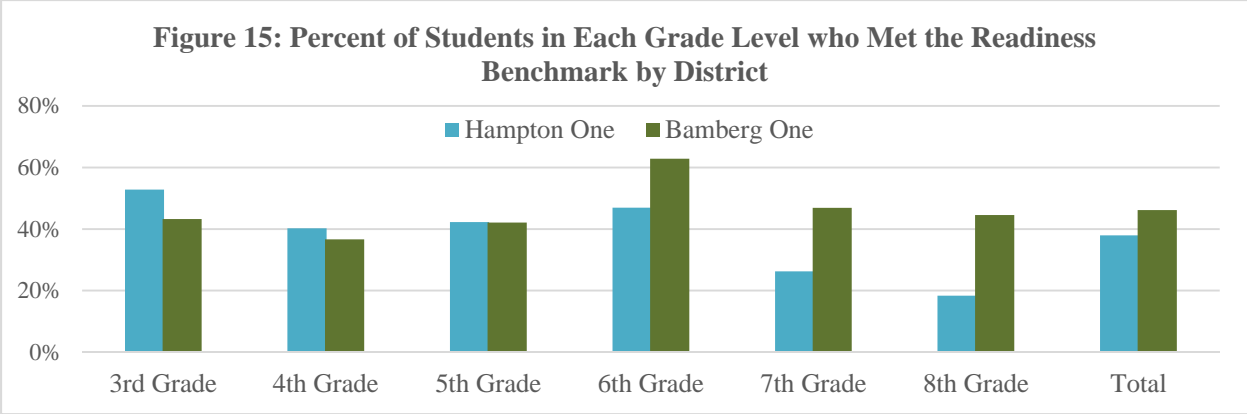
Differences in Achievement in 2015

To determine whether the project is having an impact on district-wide achievement, we first examine differences in average scale scores and performance levels. Then, we determine if there are significant differences in demographics between the students tested in each district. Finally, we determine if there is a significant difference in student achievement between the districts after accounting for differences in demographics. Implications for these findings are discussed. It must be noted that in 2015, the state standardized test for math was changed to the ACT Aspire; therefore, students' prior academic achievement in math cannot be accounted for in the analysis.

Overall, the proportion of students in Hampton One who scored ready or above on the math ACT Aspire (38%) is significantly less than the proportion in Bamberg One (46.2%) ($p=0.001$) as is the average scale score for all students ($mean\ difference=1.6, t=4.52, df=1058.7, p<0.001$). Among third grade students, there is no statistical difference in the proportion of students who met the standard ($p=0.122$), but the average scale score for third grade students in Hampton One is significantly higher ($p=0.005$). There are no significant differences in achievement between fourth and fifth grade students. In middle school grades; however, students in Bamberg One are significantly more likely to meet the standard ($p_{6th}=0.009, p_{7th}=0.001, p_{8th}<0.001$) and have a significantly higher average scale score ($p_{6th}=0.016, p_{7th}<0.001, p_{8th}<0.001$).

Table 15: Comparison of Grade Level Achievement on Math ACT Aspire in 2015

	Hampton One			Bamberg One			% Met or Above – p value	Scale Score-p value
	%Met or Above	N Tested	Average	%Met or Above	N Tested	Average		
3rd Grade	52.8%	178	413.1	43.3%	104	411.6	0.122	0.005
4th Grade	40.2%	174	414.9	36.6%	101	414.8	0.555	0.777
5th Grade	42.3%	175	417.0	42.1%	95	417.3	0.977	0.542
6th Grade	47.0%	181	419.8	62.9%	105	421.5	0.009	0.016
7th Grade	26.3%	179	418.0	46.9%	96	421.9	0.001	<0.001
8th Grade	18.3%	169	419.7	44.5%	110	424.3	<0.001	<0.001
Total	38.0%	1056	417.1	46.2%	611	418.6	0.001	<0.001



Although the districts appeared statistically similar on baseline data, there are several significant differences in demographics of students tested. There is a higher proportion of students considered to be economically disadvantaged in Bamberg One (87.2%) compared to Hampton One (76.6%) ($p < 0.001$). The proportion of students with an IEP is larger in Bamberg One (13.4% compared to 7.5% in Hampton, $p < 0.001$), as is the proportion of students covered under Section 504 (4.6% compared to 0.4% in Hampton, $p < 0.001$), but there is also a larger percentage of students in gifted programs (15.4% compared to 9.1% in Hampton, $p < 0.001$). The proportion of students who are English language learners is higher in Hampton One (1.6% compared to 0.5% in Bamberg One, $p = 0.44$), as is the proportion of students who are of other races (including Hispanic, Asian, Native American, and students of two or more races) (6.4% compared to 3.6% in Bamberg One, $p = 0.048$). There are no differences between the districts in the proportion of students of each gender ($p = 0.632$) or the proportion of students in each grade level ($p = 0.881$).

To estimate the difference in achievement on the 2015 math ACT Aspire while accounting for differences in student demographics, multiple linear regression estimation was used. The model used in the analysis is:

$$TestScore_i = \beta_0 + \beta_1 District_i + \beta_2 StudentDemographics_i + u_i$$

Three separate models were developed, one with all students, one with elementary only, and one with middle school students only. After accounting for differences in demographics of students tested, students in Bamberg One continue to have significantly higher test scores than students in Hampton One for students in middle school only. For students in elementary school, there are no significant differences between the districts.

Among all students, the students' grade level is associated with a 1.5 point increase in scale score ($p < 0.001$), being economically disadvantaged is associated with a 1.4 point decrease in scale score ($p < 0.001$), having an IEP is associated with a 3.7 point decrease in scale score ($p < 0.001$), being an English language learner is associated with a 3 point increase in scale score ($p = 0.010$), being in a gifted program is associated with a 7 point increase in scale score ($p < 0.001$), and being African American is associated with a 1.4 point decrease in scale score ($p < 0.001$). Holding all else equal, students in Hampton District One score 1.5 points less than students in Bamberg District One ($t = -5.97$, $p < 0.001$).

Among elementary school students, the students' grade level is associated with a 2.2 point increase in scale score ($p<0.001$), having an IEP is associated with a 2.3 point decrease in scale score ($p<0.001$), being in a gifted program is associated with a 4.7 point increase in scale score ($p<0.001$), and being African American is associated with a 1.2 point decrease in scale score ($p<0.001$). Being economically disadvantaged does not have a significant impact on scale score ($p=0.112$), nor does being an English language learner ($p=0.569$). Holding all else equal, the district in which a student attends school (Hampton District One or Bamberg District One) does not have a significant impact on elementary students' test score ($t=0.469$, $p=0.639$).

Among middle school students, being economically disadvantaged is associated with a 1.4 point decrease in scale score ($p=0.003$), having an IEP is associated with a 4.9 point decrease in scale score ($p<0.001$), being an English language learner is associated with a 5.4 point increase in scale score ($p=0.008$), being in a gifted program is associated with a 7.9 point increase in scale score ($p<0.001$), and being African American is associated with a 1.9 point decrease in scale score ($p<0.001$). The students' grade level does not have a significant impact on scale score ($p=0.987$). Holding all else equal, middle school students in Hampton District One score 3.0 points less than middle school students in Bamberg District One ($t=-7.59$, $p<0.001$).

Table 16: Factors Influencing Achievement on Math ACT Aspire in 2015

	All Students	Elementary Only	Middle Only
Adjusted R ²	.446	.316	.390
N Students	1,667	827	840
Gender (Is Female)	0.2	0.3	0.4
Actual Grade	1.5*	2.2*	0
Economically Disadvantaged	-1.4*	-0.7	-1.4*
Has Individualized Education Plan (IEP)	-3.7*	-2.3*	-4.9*
Is an English Language Learner	3.0*	0.7	5.4*
Covered under Section 504	-0.6	-1.7	-0.9
Is in a Gifted Program	7.0*	4.7*	7.9*
Is Black/African American (Compared to Is White)	-1.4*	-1.2*	-1.9*
Is Other Race (Compared to Is White)	-0.8	-0.5	-0.7
Is a Hampton District One Student	-1.5*	0.1	-3.0*

*Statistically significant difference at the .05 Level

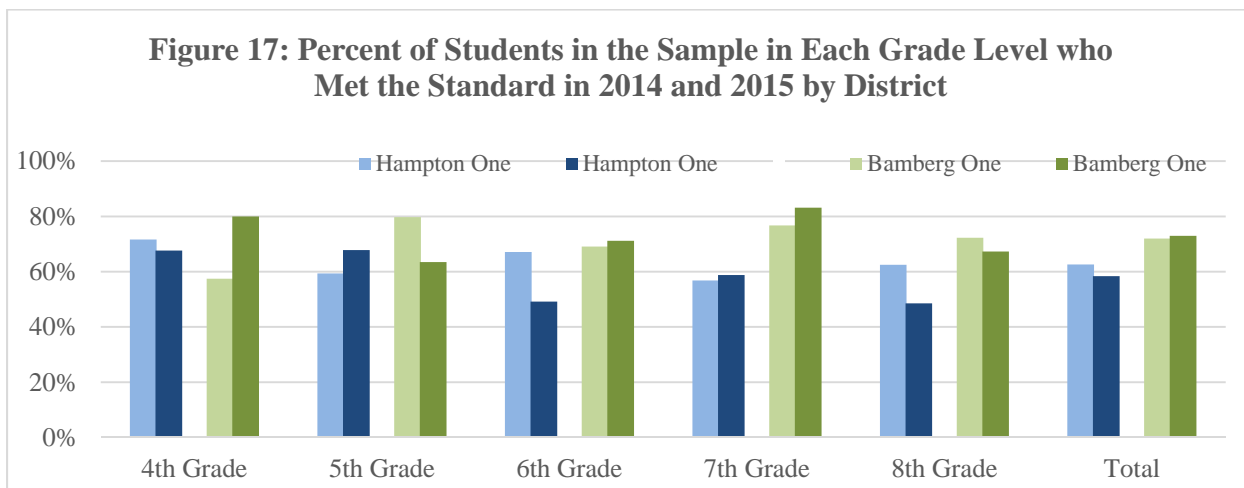
It is important to note that because this is the first year that the ACT Aspire has been administered, prior achievement, which is an important indicator of future achievement, cannot be accounted for in the analysis. Furthermore, because this is a between district comparison, the effect of the program cannot be disentangled from overall effects of district-wide policies and educational practices.

Overall, the proportion of students in Hampton One who scored met or above on the Science PASS test (58.4%) is significantly less than the proportion in Bamberg One (72.9%) ($p<0.001$) as is the average scale score for all students (*mean difference*=15.4, $t=5.5$, $df=1383$, $p<0.001$).

Of those students for whom 2014 scores could be matched, 62.6% of Hampton students and 72% of Bamberg One students met or exceeded the standard ($p=0.005$). Therefore, district-wide achievement for these students was higher in Bamberg One in both years. Among fourth grade students, a significantly higher proportion scored met or above in Bamberg One ($p=0.029$) but there is no statistical difference in scale scores ($mean\ difference=8.99, t=1.45, df=268, p=0.149$). Among fifth grade students, there is no statistical difference in the proportion who scored met or above ($p=0.471$) or in the average 2015 scale score ($p=0.426$), but the change in score for these students from 2014 to 2015 is significantly greater in H1 than it was for B1 ($mean\ difference=28.5, t=-6.2, df=232, p<0.001$). A higher proportion of middle school students in B1 scored met or above ($p_{6th}<0.001, p_{7th}<0.001, p_{8th}=0.002$), and have a higher average scale score ($p_{6th}<0.001, p_{7th}<0.001, p_{8th}=0.008$).

Table 17: Comparison of Grade Level Achievement on Math ACT Aspire in 2015

	Hampton One			Bamberg One			% Met or Above 2015–p value	Scale Score–p value
	%Met or Above 2015	2014	Average	%Met or Above 2015	2014	Average		
4th Grade	67.6%	71.6%	623.2	80.0%	57.4%	632.2	0.029	0.149
5th Grade	67.8%	59.4%	627.8	63.4%	79.7%	622.2	0.471	0.426
6th Grade	49.1%	67.1%	601.7	71.2%	69.1%	625.0	<0.001	<0.001
7th Grade	58.8%	56.8%	613.8	83.2%	76.7%	613.1	<0.001	<0.001
8th Grade	48.5%	62.5%	605.3	67.3%	72.3%	620.5	0.002	0.008
Total	58.4%	62.6%	613.9	72.9%	72.0%	629.2	<0.001	<0.001



Although the districts appeared statistically similar on baseline data, there are several significant differences in demographics of students tested. There is a higher proportion of students who receive free or reduced price meals in Bamberg One (85.1%) compared to Hampton One (76.4%) ($p<0.001$). The proportion of students with an IEP is larger in Bamberg One (12.8% compared to 7.3% in Hampton, $p=0.001$), as is the proportion of students with a Section 504 plan (6.2% compared to 0.9% in Hampton, $p<0.001$) and the proportion of students in an alternate instructional setting (such as special education) (18.6% compared to 4%, $p<0.001$), but there is

also a larger percentage of students in gifted programs (17.2% compared to 9.9% in Hampton, $p < 0.001$). The proportion of students who are English language learners is higher in Hampton One (4.8% compared to 0% in Bamberg One, $p < 0.001$). There are no differences between the districts in the proportion of students of each gender ($p = 0.196$), the proportion of students in each grade level ($p = 0.857$), or the proportion of students of each race (as separated into African American, White, and other races) ($p = 0.413$).

To estimate the difference in achievement on the 2015 science PASS test while accounting for differences in student demographics, multiple linear regression estimation was used. The model used in the analysis is:

$$TestScore_i = \beta_0 + \beta_1 District_i + \beta_2 PASS2014_i + \beta_3 StudentDemographics_i + u_i$$

Three separate models were developed, one with all students, one with elementary only, and one with middle school students only. After accounting for differences in demographics of students tested and prior scale score, students in Bamberg One continue to have significantly higher test scores than students in Hampton One for students in middle school only. For students in elementary school, there are no significant differences between the districts.

Among all students, the students' grade level is associated with a 5.2 point decrease in scale score ($p < 0.001$), receiving free or reduced price meals is associated with a 10.1 point decrease in scale score ($p = 0.001$), having an IEP is associated with a 14.8 point decrease in scale score ($p = 0.029$), being in a gifted program is associated with a 15.3 point increase in scale score ($p < 0.001$), and being African American is associated with a 7.8 point decrease in scale score ($p = 0.002$). For each one point increase in prior year's test scores, students' current year score increases by 0.6 points ($p < 0.001$). Holding all else equal, students in Hampton District One score 5 points less than students in Bamberg District One ($t = -2.08$, $p = 0.037$).

Among elementary school students, having a 504 plan is associated with a 28.8 point decrease in scale score ($p = 0.035$), receiving free or reduced price meals is associated with a 13.6 point decrease in scale score ($p = 0.019$), and being in a gifted program is associated with a 18.7 point increase in scale score ($p = 0.006$). For each one point increase in prior year's test scores, students' current year score increases by 0.6 points ($p < 0.001$). Holding all else equal, the district in which a student attends school (Hampton District One or Bamberg District One) does not have a significant impact on elementary students' test score ($t = 0.333$, $p = 0.739$).

Among middle school students, being in a gifted program is associated with a 14.9 point increase in scale score ($p < 0.001$), being African American is associated with a 10.2 point decrease in scale score ($p = 0.001$), and being a race classified as other (Hispanic, Asian, Native American, and two or more races) is associated with a 15.6 point increase in scale score ($p = 0.038$). For each one point increase in prior year's test scores, students' current year score increases by 0.7 points ($p < 0.001$). Holding all else equal, middle school students in Hampton District One score 10.4 points less than middle school students in Bamberg District One ($t = -3.64$, $p < 0.001$). It is important to note that because this is a between district comparison, the effect of the program cannot be disentangled from overall effects of district-wide policies and educational practices.

Table 18: Factors Influencing Achievement on Science PASS Test in 2015

	All Students	Elementary Only	Middle Only
Adjusted R ²	.604	.583	.619
N Students	873	355	518
Scale Score 2014	0.6*	0.7*	0.6*
Gender is Female	-3.0	-4.4	-2.0
Is Black/African American (Compared to Is White)	-7.8*	-4.1	-10.2*
Is Other Race (Compared to Is White)	9.6	0.6	15.6*
Is in a Gifted Program	15.3*	18.7*	14.9*
Has a Section 504 Plan	-13.2	-28.8*	1.7
Is an English Language Learner	-16.1	-19.8	16.3
Receives Free or Reduced Price Meals	-10.1*	-13.6*	-6.8
Is in an Alternate Instructional Setting	7.1	6.1	4.7
Has Individualized Education Plan (IEP)	-14.8*	-18.8	-9.9
Grade level	-5.2*	-6.2	-2.3
Is a Hampton District One Student	-5.0*	1.5	-10.4*

*Statistically significant difference at the .05 Level

Overall, the proportion of students in Hampton One who passed the Algebra EOC (80.8%) is significantly less than the proportion in Bamberg One (95.6%) ($p=0.004$). The proportion of students in Hampton One who passed the Biology EOC (58.5%) is also significantly less than the proportion in Bamberg One (75.7%) ($p=0.009$). An error in the data file for Hampton One’s EOC data prevented analyses from being conducted to account for student demographics in the differences between the two districts.

Table 19: Comparison of Achievement on End of Course Tests in 2015

	Hampton One			Bamberg One			% Met or Above – p value
	%Met or Above	N Tested	Average	%Met or Above	N Tested	Average	
Algebra EOC	80.8%	162	79.6	95.6%	90	84.6	0.004
Biology EOC	58.5%	159	72.3	75.7%	119	79.6	0.009
Math ACT	4.4%	159	15.6	17.3%	81	18.0	0.003
Science ACT	2.5%	158	15.2	9.9%	81	17.3	0.037

FINDINGS PART IV: 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 in math was measured using the Study Island software. Study Island software has been purchased by the school district for use by students as an additional instructional tool. 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 would be 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 108 math and science teachers who completed the pre- and post- content knowledge assessment, 82 (76%) completed a math module of Study Island and 26 (24%) completed a science module of Study Island.

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 112 teachers who participated in professional development opportunities, 80 participated in at least one of the courses that provided math content (a total of 89 participations). Eighty two 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 ($t=6.37, p<0.001$). Of these 82, 50 (61.0%) achieved significant gains in math content knowledge from the pre-test to the post-test.

Eighty-three teachers participated in at least one of the courses that provided science content (a total of 96 participations). Twenty-three teachers completed both the pre-test and the post-test on science content knowledge. Teachers with an improvement of five points or more from the pre-test to the post-test were considered to have made a significant improvement ($W=41.5, p<0.001$). Of these 23, 15 (65.2%) achieved significant gains in science content knowledge from the pre-test to 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 Districts One or Two. Therefore, all students in the districts should be impacted. During the 2015-2016 school year, there were approximately 2,362 students enrolled in school in HD1 and 788 enrolled in HD2, for a combined total of 3,150 students impacted.

Of the 965 who completed the SC READY Math test in 2016, 626 (65%) scored at the “does not meet” or “approaching” benchmark. Of the 197 who completed the Algebra End of Course test in 2016, 96 (48.7%) did not pass the test (scored less than 70 points).

Of the 882 who completed the Science PASS test in 2016, 394 (44.7%) scored not met. Of the 179 who completed the Biology End of Course test in 2016, 48 (26.8%) 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 Districts One or Two. Therefore, all students in the districts should be impacted. During the 2015-2016 school year, there were approximately 2,362 students enrolled in school in HD1 and 788 enrolled in HD2, for a combined total of 3,150 students impacted.

Of the 965 who completed the SC READY Math test in 2016, 339 (35%) scored at the “meets” or “exceeds” benchmark. Of the 197 who completed the Algebra End of Course test in 2016, 101 (51.3%) passed the test (scored at or above 70 points).

Of the 882 who completed the Science PASS test in 2016, 488 (55.3%) scored met or exemplary. Of the 179 who completed the Biology End of Course test in 2016, 131 (73.2%) passed the test (scored at or above 70 points).

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.”

The **outcome evaluation design** is quasi-experimental. The experimental group consists of four subgroups: HD1 MTs and math/science teachers and HD2 MTs and math/science teachers. Each district will identify these teachers and make annual adjustments as needed. Because the project serves all of the math and science teachers in Hampton Districts One and Two, the quasi-experimental design requires comparison to teachers in another district. Bamberg District One was selected as a comparison group due to its proximity and similarity to HD1. The suitability of this district as a comparison group was examined during the 2013-2014 evaluation. It was determined that Bamberg District One is a suitable comparison for HD1.

It was planned that in the second and third years, after the teachers have had the opportunity to implement what they have learned, the effect of each PD activity would be examined by comparing changes in teacher content and pedagogy knowledge, and student achievement among each group of teachers. Regression statistics would be used to account for differences in student demographics and teacher credentials and to measure the significance of the relationship. The evaluation would include an analysis of the achievement rates of HD1, HD2, and Bamberg students accounting for differences in staff characteristics, advanced degrees, and PD days to determine if differences in student achievement are greater than normal. However, in August 2015, Bamberg school district received an MSP grant, causing the comparison to no longer be applicable.

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.”

Due to the loss of the comparison school district in August 2015 when it received an MSP grant, the evaluation conducted for the 2015-2016 grant year could not yield scientifically valid results.

CONCLUSIONS

1. The process performance measures of the grant were met or exceeded
2. Teachers significantly improved both their content knowledge and use of endorsed pedagogical practices
3. The project has been well administered
4. The Master Teachers and classroom teachers are enthusiastic about the TEAMS
5. The TEAMS concept is being rapidly integrated into the Districts' cultures
6. Due to lack of data (attributable to a hurricane causing an extension of the time at which these scores were to be released by the SCDE) it is not possible at this time to measure the HD 1 or HD2 high school students' reduction of the gap between HD1 algebra and biology EOC scores and the average scores for the state as a whole. This analysis will be completed when the data is available and this report amended.
7. Due to lack of data (attributable to a hurricane causing an extension of the time at which these scores were to be released by the SCDE) it is not possible at this time to measure HD 1 and HD2 third through eighth grade students' reduction in the gap between state assessment math or science scores and the average scores for the state as a whole. This analysis will be completed when the data is available and this report amended.
8. In the two tests (math ACT Aspire and science PASS) on which multiple linear regression estimation could be applied, there were significant differences in achievement among different demographic groups. Reductions in scaled scores are associated with having a 504 plan, receiving free or reduced lunch, being identified as African-American and being identified as Hispanic. On the other hand, being identified as being in a gifted program is associated with higher scores. These differences are discussed in detail in the body of the report.

RECOMMENDATIONS

1. That the Districts continue to strongly support the MSP project.
2. That the program staff meet with the evaluation team to discuss the differences in scaled scores among different demographic groups.
3. That the program staff and evaluation team discuss additional methods for closing the gap among different demographic groups.
4. That the program staff and evaluation team discuss the differences in achievement in closing the gap between state and district scores between Algebra EOC and Biology EOC.

**APPENDIX ONE:
INTERVIEW INSTRUMENT**

**APPENDIX TWO:
MASTER TEACHER MEETING POWERPOINT
PRESENTATIONS**

**APPENDIX THREE:
SAMPLE OF TEACHER ACTION PLAN**

**APPENDIX FOUR:
TRAINING PROVIDED**

**APPENDIX FIVE:
PROFESSIONAL DEVELOPMENT OFFERED**