Math Matters:
Transforming Math Education for 21st Century Success

Quarterly Report

July 30th, 2015

THE PAST FOUNDATION

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Math Matters
July 30th, 2015 Quarterly Report
Table of Contents

Section 1: Math Matters 4th Quarter Report Formative Evaluation……4

Section 2: Math Matters Knowledge Capture Appendix……32

MATH MATTERS 4th Quarter Report
FORMATIVE EVALUATION

The Knowledge Capture (KC) Program conducted evaluation during the fourth quarter of implementation for the Math Matters Project, in the period beginning April 17, 2015 to July 20, 2015. A chronology of KC evaluation activities for all work conducted is presented in the Appendix of this report (See *Appendix Table 1: Math Matters Chronology of Knowledge Capture Activities April 16, 2015 to July 20, 2015*).

The Math Matters Program was initiated in August 2014 by the MIND Research Institute, providing access to ST Math software for use in K-12 classrooms in 100 buildings in ten districts and organizations across Fairfield and Franklin counties. As of the third quarter grant report (April 30, 2015), the ST Math implementation process continued to provide onsite Introduction to ST Math Part 1 and Part 2 training in three districts including Columbus City Schools, Hilliard, and Pickerington. Part 1 and Part 2 training was also conducted during summer sessions on June 9th and 17th at the June Academy. Additional support was provided within each district at specific school sites and is presented below in *Table A: Math Matters Implementation Overview, April to June 2015*. This continuing interaction with individual schools offers the districts a tailored approach responding to specific emerging needs identified by the ST Math team through ongoing communication with the districts, and with individual school leaders within each of the nine districts.

Note in Table A, at least five of the nine districts participated in "Data Meetings," (for additional details on the purpose and scope of "Data Meetings," see Appendix: "Math Matters, MIND Research Institute Quarterly Report on ST Math" for descriptions of this and other different types of training and implementation support). Additionally, eight of the nine districts requested follow-up onsite visits by the ST Math Education Consultant or others from the ST Math team during the 4th quarter. Teachers in three districts (Columbus City, Hamilton, and Hilliard) requested onsite "Classroom Modeling" during the 4th quarter designed for teachers to observe ST Math team members facilitate lessons in the classroom working with the class as a whole.

Table A also shows summer training sessions that took place in June, including the "Train the Trainer" certificate program, providing each district with at least two individuals who will have the skills to conduct ST Math teacher training beginning in fall 2015. The ST Math June Academy offered teachers optional summer professional development sessions on two dates in mid-June. These sessions were open to a maximum of (20) teachers per session on each day.

Table A: Math Matters Implementation Overview
April-July, 2015

ST Math Activities		Fairfield ESC	Lancaster	Liberty Union	Pickerington	Walnut	CCS	Gahanna	Hamilton	Hilliard	Worthington
JiJI School Visits	April		■	■	■	■	■			■	■
Training [Pt. 1 & 2; Abbrev.]	April									■	
	May				■						
	June						■				
Classroom Support [Site Visits]	April		■	■	■	■	■		■	■	■
	May				■						
	June						■				
	July						■				
Classroom Modeling	April								■	■	
	May										
	June						■				
Data Meetings	April						■			■	■
	May		■		■		■			■	■
	July	■									
Implementation Planning Meetings	April						■				■
	May		■		■		■			■	
June Academy [6/9 & 6/17]	June	■	■	■	■	■			■	■	■
Train the Trainer [6/23-6/25}	June	■	■	■	■	■	■	■	■	■	■

Source: MIND Research Institute, July 30, 2015; email correspondence July 22, 2015, and August 4, 2015.

MIND Research staff offered two types of training: Track A for "Emerging JiJi Users" (2 sessions/day), and Track B designed for "Comfy JiJi Users" (3 sessions/day). Track B sessions were created to strengthen teacher skills with integrating ST Math in their classrooms. Track B participants were provided an overview on deepening student understanding of math, creating a blended learning environment and classroom lesson design using ST Math.

In the 4th quarter of year 1 of the project, the KC team conducted a total of 18 observations of ST Math activities including structured observation of data meetings, classroom support, and classroom modeling, in addition to observing implementation planning meetings with three districts (See *Appendix Table 2: Knowledge Capture Math Matters Observations April-June 2015*). The KC team had the opportunity to conduct structured observation of all ST Math training sessions during the June Academy, as well as the three-day "Train the Trainer" certificate training offered through the Fairfield County ESC.

Data and Planning Meetings

ST Math activities reported through the last day of the school year included a total of 52 data and planning meetings in all nine Math Matters districts (see *Appendix Table 3: ST Math Data and Implementation Planning Meetings Reported for each District, September 2014 - May 2015)*. During the 4th quarter of implementation (from March 25th through May 21st), 13 data and planning meetings were conducted in five districts including Lancaster (1), Pickerington (1), CCS (4), Hilliard (2), and Worthington (5). The ST Math Program 4th quarter report indicates that these five districts also began implementation planning for year 2.

Planning meetings were conducted by the ST Math Educational Consultant to update district and building leaders on year-end progress with implementation. These meetings also provided the opportunity to review ST Math data reports, specific challenges encountered during the year, and strategize on particular actions and next steps in ST Math implementation. During these sessions, district and building leaders were also encouraged to send educators for additional professional development during the June Academy to maximize the use of ST Math through standards integration, creating a blended learning model, and integrating ST Math games into classroom lessons.

Additionally, each district was invited to select two educators to attend the ST Math Train the Trainer Program offered through the Fairfield County ESC, held on June 22-24. The trainer certification process was designed to provide district educators with a rigorous, three-day multi-faceted training program. Those successfully completing the certified training will provide program support for classroom teachers, meet training needs as they arise, foster teacher engagement, and continue to grow teacher skills beginning with year 2 implementation.

Review of the ST Math 4th quarter report for: 1) areas of achievement, 2) specific challenges, and, 3) strategies to advance use of ST Math in 2015-16, as reported by the ST Math implementation team. A summary of issues identified by multiple districts is presented below organized into the three general categories.

Achievements 2014-15

- Six districts requested 'classroom modeling' to advance their skills in whole class instruction (see *Appendix Table 4: Onsite ST Math Classroom Modeling, 1/14/15 – 7/2/15*)
- Two districts effectively used station rotation/small group instruction
- One district initiated implementation in year 1 based on a 'train-the-trainer' model

Challenges 2014-15

- Four districts cited the need for more devices as a major challenge to implementing use of ST Math for students
- Four districts reported that teachers found it difficult to meet weekly logon goals, noting lack of adequate time
- Three districts/organizations identified the need for more support for special population classroom teachers, specialists, and students
- Three districts reported that teachers had difficulty in managing the use of more than one math program, noting that teachers need more support to better manage use of multiple programs

Strategies 2015-16

- Three districts will schedule site visits using a Google calendar set up by the ST Math Education Consultant to facilitate onsite support to meet specific needs
- Two districts identified a priority for year 2 will be to focus on creating 'blended learning' environments in their ST Math classrooms

These issues represent components of implementation that will be discussed further in later sections of this report that present findings associated with administrator interviews, teacher focus groups, and teacher surveys conducted by the KC Team.

Formative Evaluation April to June 2015

The 4th quarter of Math Matters implementation was a culminating point for formative evaluation of year 1 (see *Appendix Table 5: Knowledge Capture Math Matters Activities August 2014 – June 2015*). During this time period the KC team conducted (71) structured observations. One-on-one interviews were conducted with (20) administrators and program leads, 13 of which occurred during the 3rd and 4th quarters (see *Appendix Table 6: Chronology of Knowledge Capture Math Matters Administrator Interviews Spring 2015*). And in the 4th quarter, (15) focus groups were conducted with (90) participants (see *Table 7: Knowledge Capture Math Matters Focus Groups, April – June 2015*), and (91) teachers participated in an online survey.

The approach to formative evaluation employed in this project follows a *mixed methods research design* outlined in the National Science Foundation Directorate for Education and Human Resources, Division of Research and Learning in Formal and Informal Settings (2010) for conducting qualitative analysis of program implementation. Conducting formative evaluation developed through a mixed methods approach produces real time data in a systematic process designed to document substantive implementation issues and challenges identified by the implementation team as well as by stakeholders. Utilizing real time evaluation data allows for an iterative and responsive process conducted over the course of the project that defines emerging issues identified by participants as implementation is underway.

For the ST Math project, initial data gathered by the KC Team involved feedback gained from Math Matters monthly project team meetings, and structured observation of onsite implementation activities. This early work helped to define specific priority areas for evaluation associated with key grant deliverables. This involved considering opportunities for structured observation of planned implementation activities at school sites, as well as mapping out a schedule for conducting other types of research including one-on-one administrator interviews, teacher focus groups and teacher surveys.

The Knowledge Capture team conducted interviews with ST Math leaders in all nine of the Math Matters districts during the 3rd and 4th quarters of year 1. Administrator interview questions were developed from analysis of early observations of training sessions in schools, as well as district planning sessions with key implementation staff. Analysis of interview data provided insights on expectations and experience of the Math Matters Project from the perspective of building leaders and content area coordinators and other program specialists involved with implementation at the district level.

The final components of the research and evaluation design consisted of teacher focus groups (April to June) and the teacher survey (May to June). Focus group questions and survey questions were also developed through analysis of all data including onsite training observations, and administrator interviews. The ST Math implementation team and the Fairfield County ESC Grants Manager reviewed and commented on the questions. The final question sets for administrator interviews, focus groups, and surveys are presented in the Appendix to this report.

Administrator Interviews

During the 3rd and 4th quarter, formalized one-on-one interviews were conducted with project leads within each district. Although six of the nine districts had been engaged in discussion with the KC team prior to March 2015, the interviews initiated in March and April encompassed the final set of interview questions designed to explore common areas across all districts. The district administrator level interviews included program leads, curriculum or math content leads, as well as special program directors. The interview questions are presented in the Appendix to this report.

The one-on-one interview typically lasted from 45 minutes to 1.5 hours at the convenience of the interviewee. Interviews were scheduled before, during, or after the school day to best accommodate administrators' availability. The purpose of the interview involved three key areas:

- Gather background data on the district design for implementation of ST Math, including clarifying initial expectations for ST Math training and ongoing support. Interviewees were given the opportunity to discuss any significant modifications that had already occurred or planned to occur during the last and final quarter of the school year. This included special focus on changes that occurred due to unforeseen challenges and constraints.

- Initiate discussion of potential interest in participation in teacher focus groups (scheduled during April to June). Administrators were also asked to give input to possible options and strategies for time and location to hold teacher focus groups, as well as identifying particular schools within the district, or particular grade levels to include in the focus groups. Administrators were also provided with a verbal description of the focus group process to inform them about how teacher participant data would be used, and clarifying information regarding confidentiality, analysis of aggregate data per human subjects protocols, and use of focus group data to design the year-end teacher survey.

- Administrators were also given details regarding plans for launching an online survey for all teachers to complete at the end of the school term to determine any significant conflicts in scheduling or best strategies for providing teachers access to the survey via a web link (similar to discussion of the focus group design, this also involved reviewing the confidentiality protocols, etc.).

Analysis of interview data identified key aspects of the first year implementation experience including concepts regarding impacts of ST Math for teachers and students, parent response, and planned strategies and program needs for year 2 of the Math Matters Project.

Issues identified in the administrator interviews fell into eight thematic categories:

- Administrator Engagement
- Teacher Engagement
- Teacher Growth
- Student Engagement
- Student Growth
- Parent and Community Engagement
- Technology
- JiJi Culture

Table B: Math Matters Administrator Interviews – ST Math Achievements 2014-15 presents the eight major themes across elementary, middle and K-12 buildings. Comparing views of Math Matters administrators (n=13) involved with implementation in elementary, middle grades and K-12 buildings offers additional insight on administrators' perspectives of the implementation process based on specific issues associated with grade level implementation. Within these eight overarching themes, administrators across all grade levels primarily focused on achievements involving *Teacher Engagement* and *Student Engagement,* as well as issues associated with *Parent and Community Engagement,* including initial steps taken to communicate with parents about ST Math.

In the area of Teacher Engagement, a majority of district administrators noted teacher buy-in as a feature of implementation (n=7), including the idea of teachers being 'comfortable' with the implementation process (n=3). Additionally, the grassroots spread of ST Math as a major achievement was also cited as a factor in successful implementation (n=4). Teachers using ST Math in a blended learning approach in their classrooms was identified as an aspect of *Teacher Growth* by administrators (n=4). Student excitement about using ST Math was also recognized by administrators as an important factor in expanding use of ST Math (n=6).

Table B: Math Matters Administrator Interviews -
ST Math Achievements 2014-15

Theme	Sub-theme	ES	MS	K-12
Administrative Engagement	Seeing Value in ST Math Program	✓	✓	
	Alerting High School Teachers about Growth in Student Math Skills		✓	
	Competing with other Schools within District		✓	
	Holding meetings about ST Math with Building Leaders			✓
Teacher Engagement	Teacher Buy-in	✓	✓	✓
	Grassroots Spread of Program	✓	✓	✓
	Comfort with Program	✓	✓	✓
	Excitement and Gratitude for ST Math	✓	✓	
	Communication among Teachers about ST Math	✓		✓
	Development of JiJi Culture		✓	✓
	Completion of Online Modules	✓		
	Excitement about Student Progress		✓	
	Teachers Demonstrating Persistence		✓	
	Using Program Before Training			✓
	Teachers Assigning Summer Homework			✓
Teacher Growth	Teachers Using Blended Learning in the Classroom	✓		✓
	Teachers Using Facilitation Skills in Other Subject Areas	✓		
	Blending with Other Math Curricula			✓
Student Engagement	Prepared for Using ST Math Next School Year	✓	✓	
	Ownership of Learning	✓		✓
	Excitement about Using ST Math	✓		✓
	Using ST Math at Home		✓	✓
	Students Completing Program		✓	✓
	Prepared for Assessments		✓	✓
	Students Presenting ST Math to Public		✓	
	Attending ST Math Programs Outside School Hours		✓	
	Decrease in Behavioral Issues		✓	
	Responding to Incentives for Progress		✓	
	Improved Persistence and Problem Solving Skills		✓	
Student Growth	Title 1 Student Growth			✓
	Growth in STAR scores			✓
Parent & Community Engagement	Parents Received ST Math Intro Letters	✓	✓	✓
	Lack of Negative Feedback about ST Math	✓		✓
	Excitement and Support for ST Math		✓	✓
	Discussing ST Math at Parent-Teacher Conferences	✓		
	Promoting ST Math Access in Community Spaces	✓		
	Availability of Parent Letters in Spanish	✓		
	Students Presenting to PTSO		✓	
	Asking to see Data Reports			✓
	Holding Math Day to Demonstrate ST Math			✓
Technology	Distribution of Devices Successful	✓	✓	
	Replacing other Online Math Programs	✓		
	More Technology Available in Buildings			✓
JiJi Culture	Participation in "JiJi Believer" Competition			✓
	Using Social Media to Promote ST Math			✓

Table C: Math Matters Administrator Interviews – Recommended Actions for 2015-16, presents areas identified for year 2 implementation, and reflects aspects of using ST Math noted by administrators that are important for their districts to target in 2015-16. Ten themes were identified:

- Training
- Data Reports
- Blended Learning
- Summer School
- Effective Use of ST Math
- Parent Engagement
- Sustainability
- Administration
- JiJi Culture
- Technology

Comparing views of Math Matters administrators (n=13) involved with implementation in elementary (ES), middle (MS) and K-12 buildings offers additional insight on administrators' perspectives of the implementation process for 2015-16. Recommendations identified in the administrator perspectives largely fall into the thematic category, "Training." A majority of administrators (n=8) identified goals to increase effective reading and/or use of data reports as a priority for year 2. Finding opportunities for training and implementation of blended learning was also deemed a priority for year 2 by Math Matters administrators (n=8). Additionally, several administrators suggested that training for parents could be strategic in gaining parent support for use of ST Math (n=3).

Table C: Math Matters Administrator Interviews -
Recommended Actions for 2015-16

Theme	Sub-theme	ES	MS	K-12
Training	Blended Learning Training	✓	✓	✓
	Reading Data Reports	✓	✓	
	Follow-up/Refresher Training		✓	✓
	Learning to Facilitate	✓		✓
	Summer Planning Time for Curriculum Integration		✓	
	Thinking about Computers as Tools	✓		
	Creating a Menu for Targeted PD	✓		
	Seeing ST Math Usage in Other Schools		✓	
	Developing Key Concepts for Facilitation			✓
Data Reports	Using Data Reports Effectively	✓	✓	✓
	Assessing Growth in Math Skills			✓
Blended Learning	Finding Opportunities to Implement	✓		✓
	Connecting Games with Curriculum	✓	✓	
	Students Sharing Thought Processes	✓		
	Creating Opportunities for Small Group Activities	✓		
	Students Working Together to Solve Problems	✓		
Summer School	Summer Curriculum for Students			✓
Effective Use of ST Math	Easier Access to Student Passwords for Teachers	✓		
	Having Access to Student Usage History		✓	
	Expanding Building Licenses to Accommodate More Grade Levels			✓
Parent Engagement	Training for Parents	✓		✓
Sustainability	Holding Teachers Accountable	✓		
Administration	Educating Principals		✓	
	Building a Plan for Year 2		✓	
	Connecting to Other Schools in District		✓	
JiJi Culture	Developing JiJi Culture	✓	✓	
	Sharing Positive Student Feedback		✓	
	ST Math Night for School Board		✓	
	Recognizing Student Progress		✓	
	Creating a JiJi Club		✓	
Technology	Strategic Distribution of Devices	✓		

Teacher Focus Groups

Based on understanding of the project implementation process gained from interview data, observations, and project team input, the next phase of work was conducted with classroom teachers participating in focus groups. This data is designed to explore issues encountered at the classroom level. Draft focus group questions were circulated to the Math Matters Project Team for comment prior to conducting the first teacher focus group (Teacher Focus Group Questions are presented in the Appendix to this report). Teacher focus groups were scheduled from April through June, conducting (15) focus groups, involving (91) teachers in the nine Math Matters districts and the Fairfield ESC (see *Appendix Table 7: Knowledge Capture Math Matters Focus Groups April - June 2015*). This included two focus groups that were held at the Fairfield ESC with K-12 educators participating in the three-day, Train the Trainer sessions (n=21).

Focus groups conducted during the school year were scheduled in eight of the nine Math Matters districts. A total of (48) elementary level teachers and (22) middle grade teachers participated in focus groups during April to June, representing (10) elementary schools and four middle schools. Focus groups generally ranged in size from four to ten teachers, and one included both elementary and middle school teachers. Focus groups were held early in the morning before students arrived, or at the end of the school day once students had left the building. Some focus groups were conducted during professional development days. Most focus groups were conducted at school buildings, but in some districts teachers from multiple buildings met in a centralized location such as a public library or a school district administration building. The duration of a focus group ran from 45 to 90 minutes, depending on the amount of time available to the teachers.

Participation in focus groups was conducted on a voluntary basis, and primarily organized by building and district leaders invested in giving teachers the opportunity to provide feedback on using ST Math. Once informed of the intent of conducting focus groups to gain perspective at the teacher level, district administrators reached out to building leaders engaged in the ST Math implementation process. Building leaders in turn encouraged teachers to take the opportunity to voice their views on their experience with ST Math. Excited by the prospect of sharing their insights on ST Math, several teachers who volunteered to participate in focus groups solicited feedback from their peers and from their students on ST Math, and shared not only their own experience of ST Math, but also comments of others in their building at both the educator and student level during focus group sessions.

Four Overarching thematic categories were used as the organizing framework for analysis of issues that emerged from focus group discussion: 1) Training and Use of ST Math; 2) Achievements; 3) Challenges; and, 4) Recommendations.

Teachers discussed their training opportunities (onsite, off-site, virtual modules, classroom support site visits, etc.) and how they used ST Math with their students (small group instruction, station rotation, etc.). Challenges discussed mainly fell into the categories associated with lack

of time to implement ST Math, lack of sufficient training, limited access to devices, problems with technology, and differentiated learning strategies. Despite the challenges that arose during year 1 of ST Math implementation, most teachers were enthusiastic about ST Math, and were interested in sharing examples of achievements and strategies for using ST Math.

In *Table D: Math Matters Teacher Focus Groups - Achievements April-June 2015*, six thematic categories were identified and are presented to show a comparative view of elementary and middle school issues across the (13) focus groups:

- Student Engagement
- Teacher Engagement
- Opportunities for Communication
- Sharing Strategies
- ST Math and grade-level curriculum
- Parent Engagement

Agreement on key issues relating to student engagement and teacher engagement is reflected in the subset of themes teachers described when discussing their experience of using ST Math. However, areas that stand out are ways in which communication about ST Math has fostered new opportunities for collaboration in learning about ST Math. In particular, some middle school teachers reported that their students were able to assist a substitute teacher in use of ST Math, while others reported that students have sought out their teachers with questions about ST Math via FaceTime™. How teachers communicate with one another about ST Math is also informative in noting that elementary level 'teaching partners' thought that use of ST Math encouraged communication in their joint planning and teaching experience, and middle school teachers noted the increased communication with their administrators in reviewing ST Math Data Reports. Additionally, it should be noted that both elementary and middle school teachers think that informal communication about ST Math encourages teacher buy-in. This particular aspect of ST Math implementation is further explored in analysis of the teacher survey responses in the next section.

Collaboration among teachers is also reported by both elementary and middle school teachers in sharing best practices for using ST Math effectively in the classroom, and in elementary grades is an aspect of working together in grade level meetings or in working with the math coach. Middle school teachers identified their ability to align ST Math with grade-level curriculum and both elementary and middle school teachers think that their students are making connections between ST Math and grade-level content. Elementary teachers noted that their students are collaborating with their peers in sharing strategies for solving puzzles.

Table D: Math Matters Teacher Focus Groups -
ST Math Achievements April-June 2015

Theme	Sub-themes	10 ES	4 MS
Student Engagement	Students are excited to use ST Math	✔	✔
	Students are motivated by ST Math	✔	✔
	Teachers observe improvement in students problem solving skills	✔	✔
	Students are able explain how to navigate ST Math to substitute teachers		✔
	Students utilize FaceTime™ to communicate with teachers about ST Math		✔
	Students hold informal conversations about ST Math	✔	✔
Teacher Engagement	Teachers see many benefits from using ST Math	✔	✔
	Teachers are actively engaged with ST Math in the classroom	✔	✔
	ST Math helps teachers understand their roles differently	✔	✔
	ST Math Data Reports are used to measure student achievement	✔	✔
	Teacher tools provided by MIND Research are useful	✔	✔
Opportunities for Communication	Use of ST Math encourages communication among teaching partners	✔	
	Informal discussion about ST Math encourages teacher buy-in	✔	✔
	Use of ST Math encourages communication between administrators and teachers (data reports)		✔
	ST Math is discussed during professional development		✔
Sharing Strategies	Teachers share strategies on overcoming obstacles with ST Math	✔	✔
	Strategies for ST Math were discussed in grade-level meetings	✔	✔
	Strategies for ST Math were discussed in math coach meetings	✔	
	Students share strategies for solving puzzles with peers	✔	
ST Math and grade-level curriculum	Students make connections between ST Math and content taught in the classroom	✔	✔
	Teachers see alignment of ST Math Aligns with Common Core	✔	
Parent Engagement	Parents are excited about their students using ST Math	✔	✔

In *Table E: Math Matters Teacher Focus Groups – Recommended Changes and/or Actions for Implementing ST Math in 2015-16*, teachers identified issues that are presented in 6 areas:

- ST Math – Suggested Modifications
- Technology
- Resources & Time
- Training
- Communication
- Student Engagement

Particular ST Math features and ideas about changes that could enhance teachers' ability to employ program tools, or allow them to customize the program for individual students was a major topic of discussion across elementary and middle school teachers. This includes the ability to easily adjust the curriculum, access student data for shared students, and increased specificity of alerts. Additionally, teachers observed frustration in students who had to play through puzzles regardless of the pre-assessment score, noting that they want to start with a level that is challenging for them.

Training in 'teacher mode' was identified by elementary teachers as important for year 2, as well as gaining in their ability to read student Data Reports. Middle school teachers felt that they could benefit from learning to work with ST Math in small group instruction, and also wanted to increase their use of teacher resources through training. Many of the elementary teachers were not aware of the ST Math license period (perpetuity) and in discussion, many agreed that they needed more clarity on ST Math license conditions. Elementary teachers also expressed ideas about the value of sharing ST Math strategies with other educators. The latter two ideas have implications for gaining teacher buy-in through increasing willingness to learn the program and use it fully in collaboration with other teachers.

Middle school teachers identified two key areas where they felt students would benefit including ways to explicitly connect puzzles, their solutions and math skills attained. Teachers also think that student motivation would be better maintained if on completing grade level puzzles other materials could be accessed beyond 'challenge games.'

Table E: Math Matters Teacher Focus Groups -
Recommended Changes and/or Actions for Implementing ST Math in 2015-16

Theme	Sub-theme	10 ES	4 MS
ST Math - Suggested Modifications	Teacher ability to adjust curriculum, share students and have specificity with alerts	✔	✔
	Ability to adjust speed of animation to better synch with student pace	✔	✔
	Control options for student playback, saving and requesting help	✔	✔
	Pre-assessments should allow students to skip levels	✔	✔
	Ability to easily create individualized lesson plans	✔	✔
	Easier access to printable student passwords	✔	
	Shorter passwords		✔
Technology	Improve ST Math for iPads	✔	✔
	Access to additional devices		✔
Resources & Time	Provide additional game mats, stickers, manuals and worksheets	✔	✔
	Teachers need more time to explore Teacher Resource site	✔	✔
Training	Aligning curriculum	✔	✔
	Providing additional summer training opportunities	✔	✔
	Working with students	✔	✔
	Training colleagues to use ST Math	✔	✔
	Working in Teacher Mode	✔	
	Reading data reports	✔	
	Using ST Math in small groups		✔
	Navigating Teacher Resource site		✔
Communication	Math curriculum coordinators will employ strategies to encourage teacher buy-in	✔	✔
	Clarification on ST Math license conditions	✔	
	Creating opportunities to share ST Math strategies with other educators	✔	
Student Engagement	Provide a way to acknowledge "Passing A Cone"	✔	
	More opportunities for JiJi school visits	✔	
	Explicitly connect games to specific math skills gained		✔
	Provide additional materials for students who have completed grade level beyond challenge games		✔

Train the Trainer Focus Group Issues

Educators (n=21) from all of the Math Matters districts and the Fairfield ESC participated in two focus groups during Day 2 of the Train the Trainer sessions including math coaches and content or curriculum specialists. Several of the focus group questions (see Appendix) were designed to prompt participants to share their ideas on effectively moving ST Math forward during year 2, while other questions mirrored those asked in the teacher focus groups conducted earlier in the 4th Quarter of Math Matters. Analysis of the focus group transcripts fell into similar thematic categories as outlined above: ST Math Usage, Achievements, Challenges, and Recommendations.

Challenges encountered by this group of educators during year 1 implementation included lack of time to implement ST Math; lack of training (a number of the TTT participants were not among the teachers who had been trained in ST Math and became familiar with ST Math through interaction with classroom teachers); access to devices; contending with competing initiatives; experienced low levels of teacher buy-in; and, encountered problems with technology.

Educators also added their thoughts on issues related to engagement with diverse student populations. For example, some special education teachers noted that older ESL students thought that the puzzles were too childish. Some observed that they thought their gifted students were bored, and higher-level students showed less interest at the prospect of working on ST Math towards the end of the school year. Conversely, when discussing achievements, some educators felt that early student buy-in to ST Math motivated teacher buy-in. Growth in student skills, and student ownership and accountability were also aspects of ST Math achievements identified by educators in the Train-the-Trainer focus groups.

When discussing plans for moving forward with ST Math in year 2, prospective trainers shared strategies they intend to deploy. Ideas that came up in this exchange included the following:

- Hold ST Math refresher courses at the beginning of the school year
- Train new teachers early in the year
- Provide ongoing PD for teachers in how to monitor and use ST Math more efficiently and effectively in the classroom
- Train others in their district for onsite support, e.g., grade-level coordinators in each school building
- Foster student buy-in by creating more opportunities to use ST Math such as creating a "puzzle club" to motivate student progress, and provide ways for them to track their progress daily

.

Teacher Surveys

Teachers were given the opportunity to take an online anonymous survey toward the end of spring semester. The survey questions were developed by the KC Team in early May with input from the Math Matters Project Team and FESC Grants Manager during the week of May 11th, with questions in final form on May 15th, when the website survey links were sent out to teachers in the nine districts and the Fairfield County ESC. The final set of questions is presented in the Appendix to this report.

The online survey was accessible for teachers to take during the school day as well as before and after school, and on weekends throughout the last two weeks of May, and was closed just after the school year ended in early June. During that time several notices and reminder messages re-inviting teachers to complete the survey were sent via email. Additionally, the survey was re-opened to teachers attending the June Academy on June 9th and 17th, allowing teachers a final opportunity to complete the survey onsite as part of the training day. A total of (91) teachers responded to the survey, 10% of the (917) teachers actively engaged in use of ST Math in their classrooms during the 4th quarter of Math Matters year 1 (see ST Math 3rd Quarter Report, April 30, 2015). The complete survey analysis is presented in the Appendix. A brief discussion of survey response highlights is presented in this section of the narrative report.

Questions 2, 3, and 4 provide profile data on respondents. A breakdown of the survey participants shows that 78% (n=71) of survey respondents teach at the elementary school level (ES), with a smaller group of 20% of total respondents (n=18) teaching at the middle school level (MS or Jr. HS). Survey respondents included classroom teachers who teach all subjects (n=46), content area teachers (n=37, including math and math intervention), as well as special population teachers (see Qs 3 and 4).

Open-ended questions (Qs 8, 13, and 16) were analyzed thematically and are presented in table format. Teachers were asked in Q8 to identify implementation challenges (n=83). Analysis of survey responses identified four overarching thematic categories:

- Technology
- Time
- Familiarity with the Program
- Student Engagement

The top reported challenge across teacher respondents among all grade levels (ES, MS, Jr. HS, and HS) indicated that they had difficulty with finding and interpreting student Data Reports. Areas of agreement across ES, MS, and Jr. HS include fostering student buy-in, finding time to implement ST Math, tracking student time on ST Math, and technological issues such as access to devices and faulty internet connections.

In open-ended question 13, respondents (n=43) offered a range of definitions for "blended learning in their classrooms." Some teachers at the ES, MS, Jr. HS, and HS defined blended

learning as *a combination of traditional and digital learning strategies implemented in whole group, small group and individually* (%). Teachers at the ES, MS, and Jr. HS level were either *unfamiliar with the term, or said it was not prevalent in their classrooms or buildings* (%). Still others identified a single idea that they associate with blended learning, including small group instruction, or students working at their own pace, etc.

Question 13: Please describe how you define blended learning for your classroom.

(n=43 respondents)

Defining Blended Learning	ES	MS	Jr. HS	HS
Combination of traditional and digital learning strategies implemented in whole group, small group and individually	✓	✓	✓	✓
Unfamiliar with term/not prevalent	✓	✓	✓	
Using technology to enhance learning and demonstrate knowledge	✓	✓		✓
Student led learning	✓			✓
Incorporation technology-based instruction with direct instruction	✓	✓		
Student learning content independently online with teacher facilitating learning	✓	✓		
Homework done at school		✓		
Students working in stations		✓		
Small group instruction	✓			
Used during specific class periods ["Daily 5"]	✓			
Students working at their own pace/differentiated instruction	✓			
Cross-curricular instruction	✓			
N/A	✓			

Analysis of responses to Q 16 (n=54) yielded four thematic categories for organizing benefits of ST Math for students. They include:

- Benefits to Diverse Student Populations
- Building Math Skills
- Student Engagement
- Creating 21st Century Learners

ES teachers identified a greater number of specific benefits for their students than did MS, Jr. HS, or HS teachers. Teachers at the ES, MS, and HS level identified a key benefit for students involves skill building in math reasoning and logic. Teachers across grade levels in various groupings identified specific benefits to diverse student populations that include giving ELL students the opportunity to "dive in" to using ST Math, providing gifted students with enrichment, and offering lower performing students the potential to fill knowledge gaps and build math skills through visualization.

In the following section, exploration of survey responses in context of ideas associated with blended learning goals is presented. This preliminary analysis will be expanded further in the final report due October 30, 2015.

Benchmarks for Successful Implementation of Blended Learning Programs

During the 2015-16 academic year, K-12 teachers in nine districts in Fairfield and Franklin counties in Ohio have been involved with year 1 implementation of the Math Matters program designed to support transitioning to a blended-learning model for math instruction in K-12 classrooms. In this preliminary analysis of administrator and teacher views gathered through interviews, focus groups and surveys, we have identified three significant areas associated with successful execution of blended learning for students in math instruction. These initial findings will be further explored to identify key benchmarks associated with this pivotal transition in the final report due October 30th, 2015.

Blended learning combines traditional classroom instruction with digital modes of learning. Generally this approach is one that offers diverse implementation strategies designed to maximize existing learning resources (classroom, access to computers and other devices, digital infrastructure, etc.) integrated with facilitation of student-centered learning. Implementation strategies for the Math Matters Straight A Program offer a structured process to transition to a blended learning environment that allows for individual school districts to identify and advance a particular path toward attaining these strategic goals for innovation in math instruction that best suit their needs.

In the following discussion, three important aspects of the year 1 experience have been identified based on teacher and administrator perspectives. These reflect particular ways in which ST Math and the implementation design for classroom use have advanced and can potentially sustain ongoing, active use by teachers and students. These include:

- Strong engagement and articulated support by instructional leaders and classroom educators
- The right technological tools and support for consistent use of ST Math
- Formal and informal collaborative development to support blended learning

In the following discussion, these proposed benchmarks are briefly explored to present preliminary understanding of significant and emerging dimensions of the impact of ST Math and related goals of the Math Matters program.

Benchmark #1:
Building and Sustaining Stakeholder Buy-in

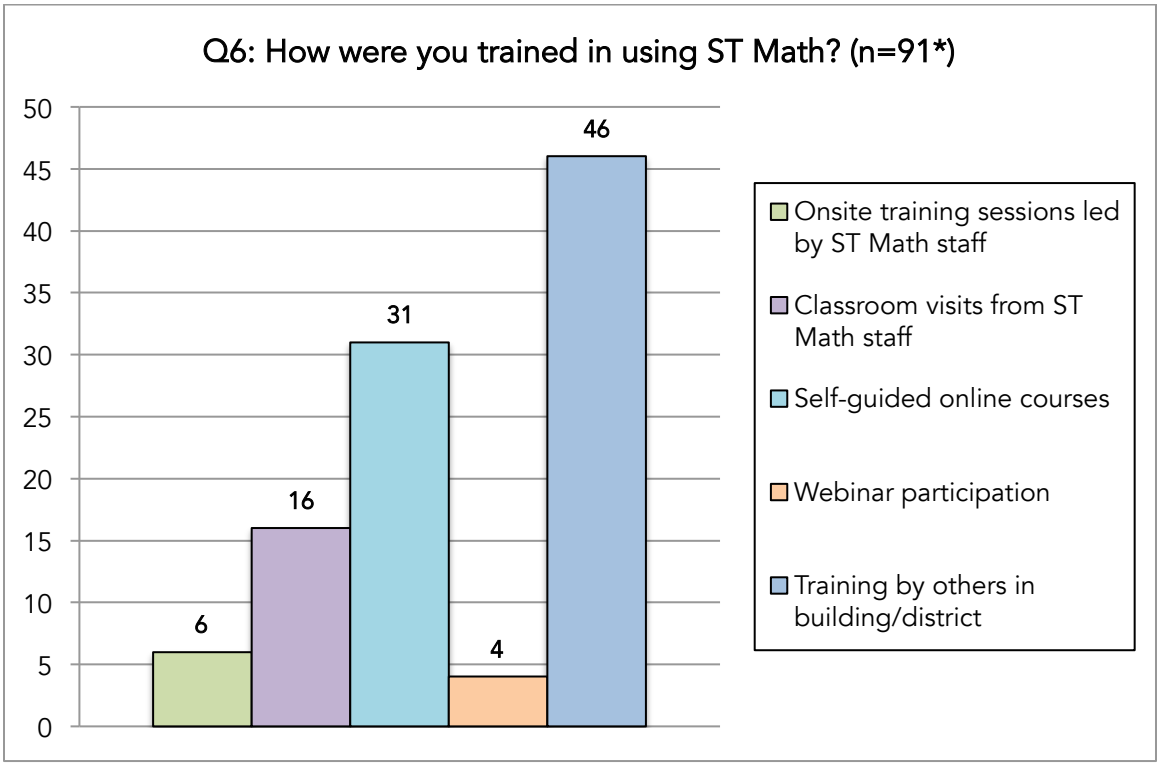
The first significant benchmark centers on garnering interest and gaining committed buy-in among key stakeholders. Building stakeholder support entails planning for all phases of implementation in ways that systematically recognize the role of key individuals who are vital to enthusiastic adoption of blended learning models. This includes planning for involvement of district and building leaders, classroom teachers, intervention and other special education staff, content specialists, educators in technology, and technical support staff.

The data shows that in this year 1 process, teachers have by and large committed to the new challenges and rewards of a blended curriculum. Administrators noted that they sought out teachers who are engaged with their students and could help others to see value in opportunities presented in the Math Matters program and ways to build capacity for successful implementation.

> **1001-27:** *"[...] I've asked her to be part of the Train the Trainer session because she's just really powerful in moving forward in the work she's doing with the Title [1] kids. So she was really instrumental in getting other people moving. In fact, she said to me at one point, "I hope I'm not in trouble for this, but I've already gotten five other people in our building moving on this […]"*

Teachers have expressed extraordinary excitement about the program, going to great lengths to train themselves and maintain proficiency in new technologies. Q6 of the survey shows that among survey respondents (n=91), 51% of respondents stated they were trained by someone in their building or in the district, and 34% completed the self-guided courses (note: several districts provided support for both self-guided course completion and follow-up onsite professional development; also, some districts compensated teachers for time in completing the self-guided courses; in other cases, teachers may have used the self-guided courses to reinforce ST Math instructional practices following onsite-training).

In this group of (91) teachers, only 7% (n=6) of teachers stated that they received onsite training, and 18% (n=16) experienced classroom site visits, affirming the view that teachers are largely inclined to explore use of the ST Math program as an initial step to considering ST Math for classroom instruction.



*Respondents were asked to choose all that apply.

Teachers expressed the view in focus group discussion that student buy-in is also a factor in gaining teacher buy-in and building interest in individualized learning and "game" centered education offered by ST Math. One administrator commented on the visible student excitement at the prospect of using ST Math, contributing to an impression of the positive impact of the program.

> 1008-58: "*When I would visit buildings and talk about ST Math, or when I would go to a building and when the kids would find out that they were going to computer lab for ST [Math], they were extremely excited. That was probably one of the highlights, was getting to see the students.*"

Benchmark #2:
The Right Technological Tools and Support for Consistent Use of ST Math

Districts engaged with year 1 implementation of Math Matters ranged on a scale of difficulty with deployment of new devices configured for ST Math, as well as in shifting scheduling practices to allocate available computer resources including access to computer labs and carts. Additionally, digital infrastructure (broadband access) and tech support also framed a complex set of constraints that presented significant challenges for some districts. This resulted in delayed deployment of new devices and a cascading series of start dates for teacher training and student rostering to enable use of ST Math in the classroom.

In considering these factors, teachers who participated in this study largely cited difficulties associated with particular aspects of ST Math that are primarily addressed in onsite training scenarios or through online resources and hotline assistance. Still, teachers will very likely need a few basic skills, or routine tech support as technological glitches in the online system itself can affect their ability to teach well using online learning resources. The International Association for K-12 Online Learning's (iNACOL) National Standards documents that teachers will need to be able to communicate via a variety of mediums, explore, identify, and use a variety of online tools to meet student needs, and be able to do basic troubleshooting--such as helping students reset passwords, download plug-ins, and so forth.

In Q8 of the survey, teachers identify both technology issues and time constraints, some of which are linked directly to mastering use of program features (e.g., rostering students, password training).

Question 8 (excerpt): What were your top three challenges in your initial implementation of ST Math in your classroom? (n=83 respondents)

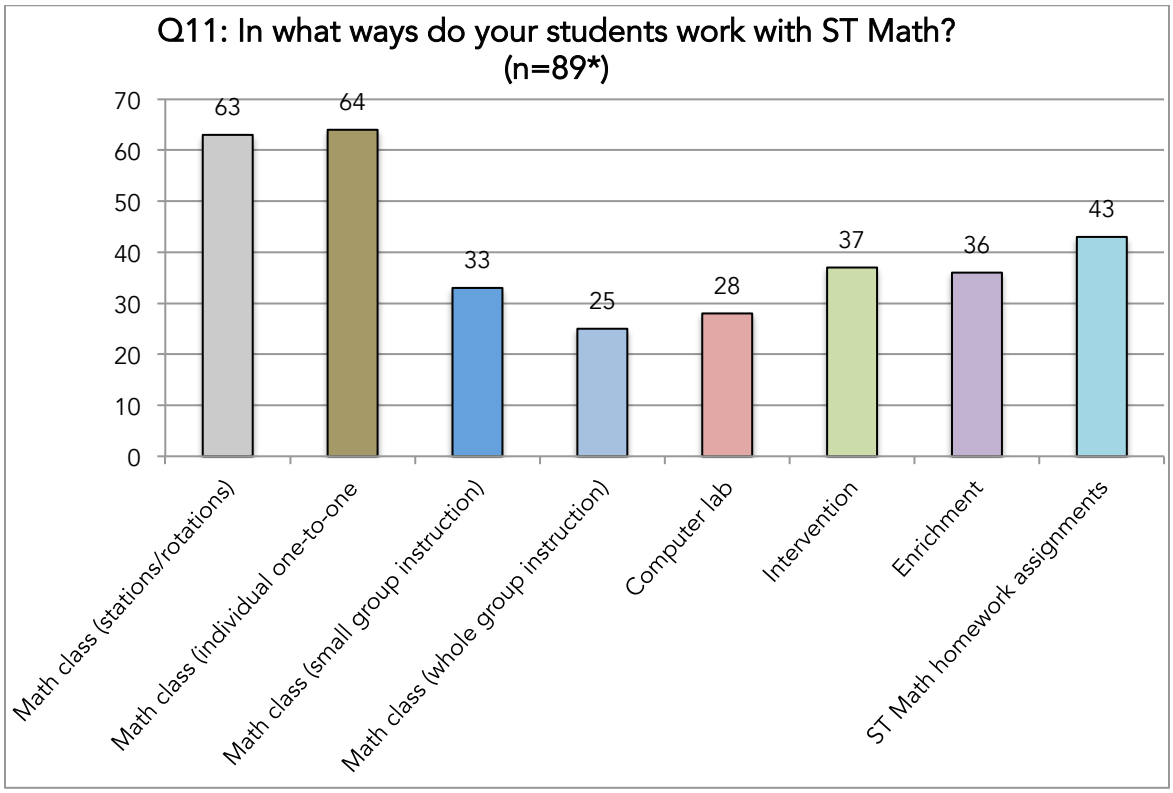
Themes	Sub-themes	ES (n=68)	MS (n=12)	Jr HS (n=3)	HS (n=1)
Technology	Student log in/log out issues	✓	✓		
	Internet unable to support ST Math	✓	✓	✓	
	Devices unable to support ST Math	✓	✓		✓
	Preparing devices to use ST Math	✓			
	Activation code issues	✓			✓
	Not enough devices available	✓	✓	✓	
	Not enough devices available due to testing	✓			
Time	Finding time to implement ST Math	✓	✓	✓	
	Finding time for teacher to explore ST Math		✓		
	Rostering too time consuming		✓	✓	
	Password training too time consuming	✓		✓	
	Scheduling intervention students	✓	✓		
	Working with students during rotation		✓		
	Tracking student time on ST Math	✓	✓	✓	
	Unable to meet recommended time	✓			

From the perspective of administrators, these issues are compounded by related constraints that come into play when teachers have to troubleshoot tech glitches stemming from unanticipated infrastructure issues or with system access.

> 1001-51: *"So what that creates is this awkward moment where our teachers have to be in two buildings, but we have to set up an awkward technology interaction for them."*

1001-55: *"Pretty much I went to [MIND Representative] and [Educational Consultant] and between the two of them, and I'll call them [ST Math] "tech support", they figured out the best way to arrange that. And it was just to create a separate account on our end, and this is where it got a little tricky. I had to go explain the situation to our technical people because we enter through a portal and they had to, each individual teacher, they have to go create a 2nd ST Math icon with the IP address. And so that's a very technical issue."*

In Q11 of the teacher survey (n=89), the data shows a relative comfort with technology with just over 70% of respondents reporting regular use of the program in a station/rotation model (n=63), and in 1-to-1 student use of computers/tablets to access ST Math (n=64).



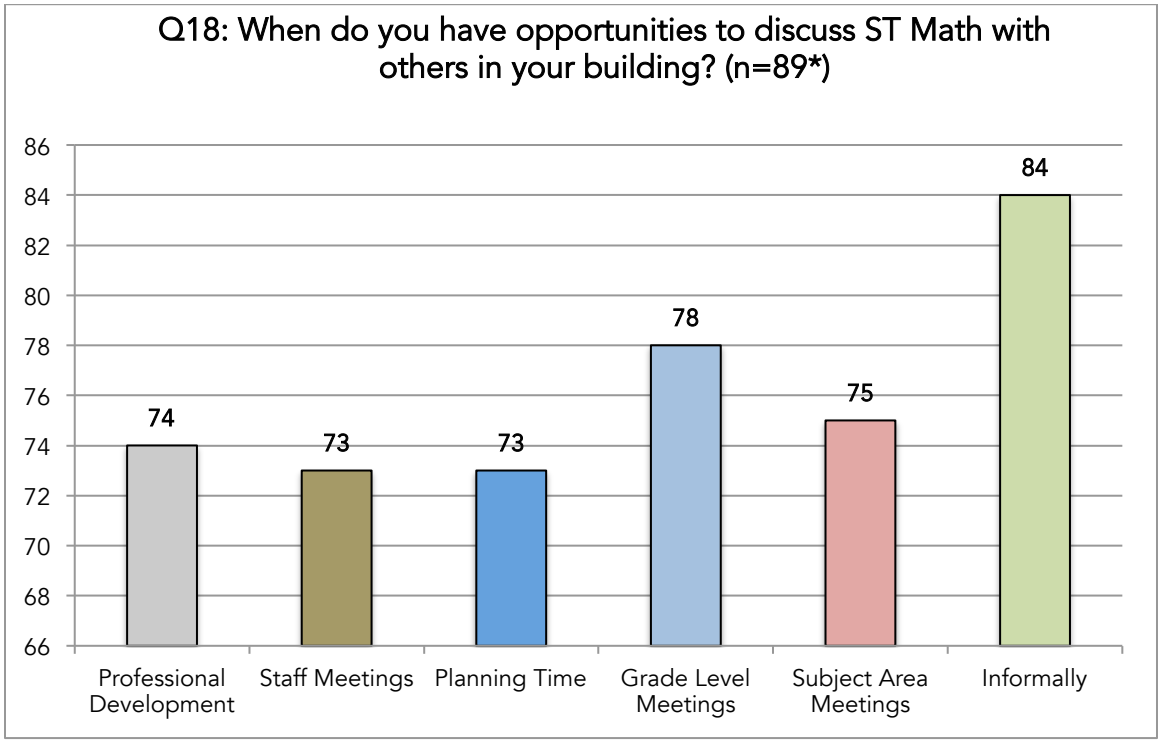
The year 2 implementation plan will also incorporate a new level of digital support with the use of Google calendar to schedule onsite visits to provide ongoing support for teachers, and to coordinate work with newly certified program leads in each district.

Benchmark #3:
Formal and Informal Collaborative Development to Support Blended Learning

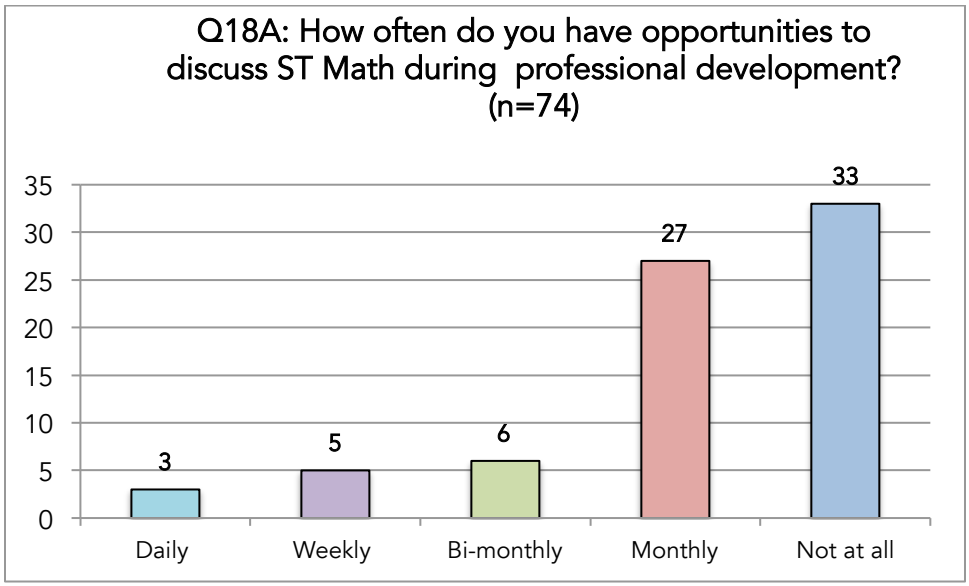
Creating blended learning environments requires that teachers experience structured development opportunities to increase competencies that support success in facilitation of math instruction. Year 1 implementation in most districts incorporated a significant allocation of resources and time supported by grant funding for formalized professional development and

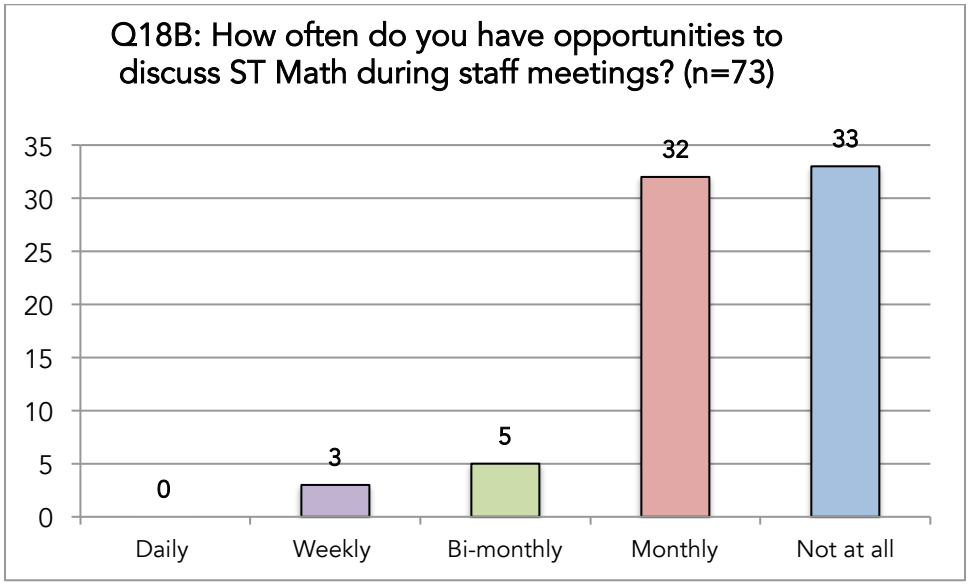
follow-up training during early stages of implementation. In year 2 implementation, in addition to ongoing ST Math support, staff would further benefit from regularly held, structured time to work together to identify lessons learned, share practices, and jointly explore areas for further improvement and innovation.

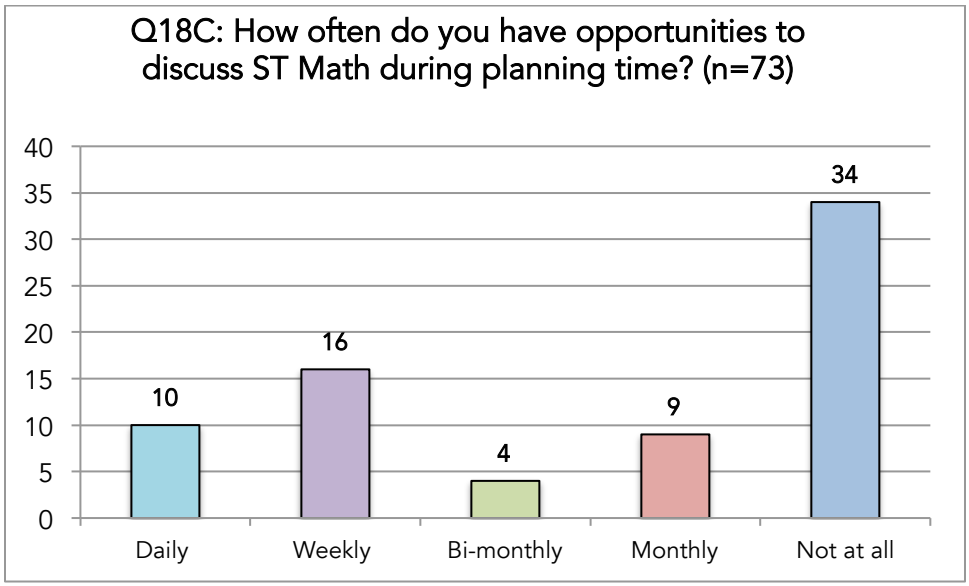
In particular, the data suggests that as their schools developed blended-learning programs, teachers and administrators lacked dedicated collaboration time to discuss strategies for ST Math. In Q18 (n=89 respondents), 94% of respondents reported that a major way to speak with their peers about ST Math occurs informally during the course of the school week.

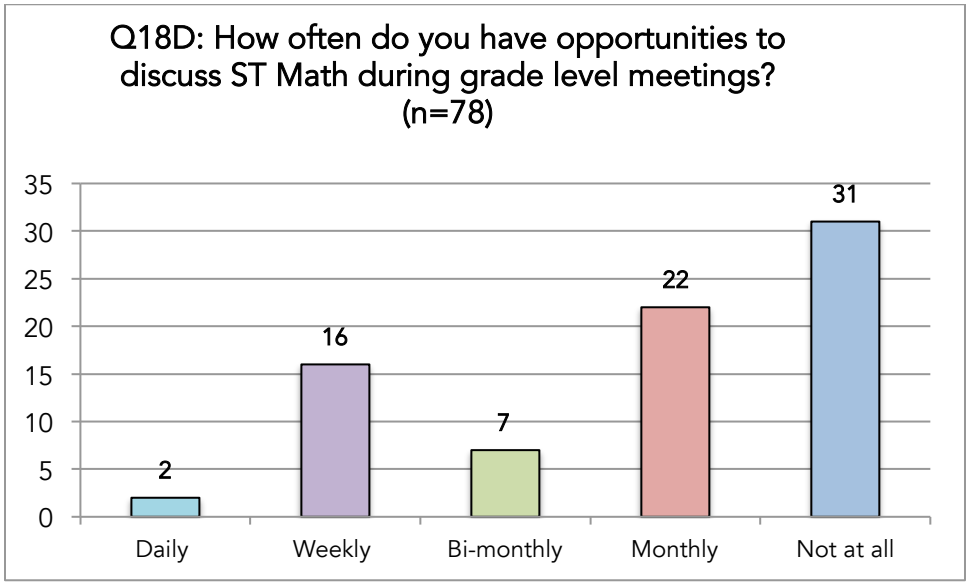


In the following tables (18A, 18B, 18C, and 18D), it is clear that just under half of respondents do not discuss ST Math during PD days, staff meetings, planning time for classroom work, or during grade level meetings.


Q18A: How often do you have opportunities to discuss ST Math during professional development? (n=74)
35
30
25
20
15
10
5
0
3
5
6
27
33
Daily
Weekly
Bi-monthly
Monthly
Not at all


Q18B: How often do you have opportunities to discuss ST Math during staff meetings? (n=73)
35
30
25
20
15
10
5
0
0
3
5
32
33
Daily
Weekly
Bi-monthly
Monthly
Not at all





The data presented in these four tables suggests that the infrastructure to discuss program implementation strategies among faculty can be considered an untapped supporting component to supplement efforts to advance program integration with classroom instruction. Expanding modes of formal communication as an underlying feature of implementation can ensure success in year 2 for teachers and administrators, providing systematic and productive platforms for communication that enhance building upon the momentum gained in year 1.

Achievements and Challenges

ST Math Program implementation in year 1 demonstrates an enormous interest and commitment to establishing a blended learning environment in math instruction. This has been developed both through intentional design, as well as grassroots buy-in by key stakeholders committed to the tenets of blended learning and growing excitement among teachers and students. One administrator shared surprise at discovering the level of student engagement in year 1 with ST Math:

> 1008-82: *"Like I said we've had a lot of home sessions. One of the, I guess, great "aha" moments was over Christmas break when I reviewed stats and looked at when students had been on. A lot of our students were on the program on Christmas Eve and Christmas day, and throughout Christmas. And we had a lot of snow days and the students were logging on during those off days. That was a great, and we've shared that with staff and principals. That tells you that the kids enjoy the program when they're logging on in their off times."*

A final view from an administrator in sharing expectations for year 2 suggests that implementation challenges will be different in the coming year.

> 1008-92: "*[…] starting on day 1, kids will be in the system. The program will be ready to run. The kids will remember where they were and they'll be excited to move onto the next level so I think that's part of it too is the kids are going to see. Now I'm in some different material or now the games are different. I think that's going to be exciting for the next two or three years."*

In the final report (October 30th, 2015), these issues will be further developed in context of the 2014-15 achievements, as well as in providing an in-depth discussion of the key challenges and strategies for sustaining the momentum and widespread engagement with the Math Matters program for math instruction.

Knowledge Capture
APPENDIX
Math Matters

Knowledge Capture Tables

Table 1: Math Matters Chronology of Knowledge Capture Activities
April 16 to July 20, 2015

Table 2: Knowledge Capture Math Matters Observations
April-June 2015

Table 3: ST Math Data and Implementation Planning Meetings Reported for each District
September 2014-May 2015

Table 4: ST Math Onsite Classroom Modeling
January 14 to July 2, 2015

Table 5: Knowledge Capture Math Matters Activities
August 2014-June 2015

Table 6: Chronology of Knowledge Capture Math Matters Administrator Interviews
Spring 2015

Table 7: Knowledge Capture Math Matters Focus Groups
April-June 2015

Interviews, Focus Groups and Survey Questions

Administrators, Curriculum and/or Program Leads Interview Questions
Teacher Focus Group Questions
Train the Trainer Participant Focus Group Questions
ST Math Teacher Survey Questions

Math Matters Interviews

Administrator Interview Bullet Point Reports (10)
March-May 2015

Matter Matters Focus Groups
Educator Focus Group Bullet Point Reports (15)
April-June 2015

Math Matters Survey Report
May-June 2015

ST Math Implementation Observations
Fairfield and Franklin Counties Elementary Schools Bullet Point Reports (5)
April 28 to June 17, 2015

Fairfield and Franklin Counties Middle Schools Bullet Point Reports (1)
April 28 to June 17, 2015

Fairfield and Franklin Counties K-12 Bullet Point Reports (3)
April 28 to June 17, 2015

Fairfield and Franklin Counties K-12 June Academy and Train the Trainer
Bullet Point Reports (5)
June 9 to June 25, 2015

Math Matters, MIND Research Institute Quarterly Report on ST Math
July 30, 2015
Submitted directly to the Fairfield ESC
This report is included here for reference only

Table 1: Math Matters Chronology of Knowledge Capture Activities
April 16, 2015 to June 24, 2015

KC Staff	Date	Event	Product	Participants
MGC, KG	4/20/15	Focus Group	BP* Table	Elementary School Teachers
MGC, KG	4/28/15	Focus Group	BP Table	Middle School Teachers
MGC	4/29/15	Site Visit	BP	JiJi visit to Middle School
LB	4/29/15	Site Visit	BP	JiJi visit to Elementary School
LB	4/29/15	Site Visit	BP	JiJi visit to Elementary School
MGC	4/30/15	Site Visit	BP	Classroom modeling in Elementary School
RO	5/2/15	Site Visit	BP	ST Math demonstration during district-wide event
MSH	5/6/15	Quarterly Meeting with MIND	Project Review	Andrew Coulson, Annalies Corbin, Ellen Cahill, Eric Pryor
MGC, KG	5/8/15	Focus Group	BP Table	Elementary School Teachers
MSH, MGC	5/11/15	Interview	BP Table	Program Administrator
MGC, KG	5/12/15	Focus Group	BP Table	Elementary Teachers
MSH, MGC	5/14/15	Focus Group	BP Table	Middle School Teachers
MGC, LB	5/14/15	Focus Group	BP Table	Elementary School Teachers
MSH, KG	5/14/15	Focus Group	BP Table	Elementary School Teachers
MSH, KG	5/14/15	Focus Group	BP Table	Elementary School Teachers
MGC, LB	5/15/15	Focus Group	BP Table	Middle School Teachers
MSH	5/15/15	District Meeting: Review Plan for Year 2	BP	Program Administrator, Twana Young
MGC	5/15/15	Survey Launch	Table	Teachers in 9 Districts and Fairfield ESC
MSH, RO	5/18/15	Focus Group	BP Table	Elementary School Teachers
MSH, MGC, AR	5/18/15	Monthly Formative Evaluation Meeting	Project Review	Ellen Cahill, Eric Pryor, Twana Young, Doug Bruno
MSH	5/19/15	District Meeting: Review Plan for Year 2	BP	Program Administrators, Twana Young

Table 2: Knowledge Capture Math Matters Observations
April-June 2015

Observations (n=18)			
Date	Event	Product	Participants
4/29/15	Site Visit	BP	JiJi visit to Middle School
4/29/15	Site Visit	BP	JiJi visit to Elementary School
4/29/15	Site Visit	BP	JiJi visit to Elementary School
4/30/15	Site Visit	BP	Classroom modeling in Elementary School
5/2/15	Site Visit	BP	ST Math demonstration during district-wide event
5/15/15	District Meeting	BP	Program Administrator, Twana Young
5/19/15	District Meeting	BP	Program Administrators, Twana Young
5/20/15	District Meeting	BP	Program Data Team, Twana Young
5/21/15	District Meeting	BP	Program Administrator, Twana Young
6/9/15	June Academy	BPs (2)	Educators from multiple districts
6/12/15	Site Visits (2)	BP	Summer School Teacher training
6/17/15	June Academy	BPs (2)	Educators from multiple districts
6/23-25/15	Train the Trainer	BPs (3)	Educators from multiple districts

*BP=Bullet Point Report

Table 3: ST Math Data and Implementation Planning Meetings* Reported for each District (n=52)
September 2014 to May 2015

ST Math Meetings	Lancaster	Liberty Union	Pickerington	Walnut	CCS	Gahanna	Hamilton	Hilliard	Worthington
September		**9.16.15 (1)**							
October								**10.13.15 (1)**	**10.7.15 (1)**
November	11.25.14 (1)		11.12.14 (1)			11.18.14 (1)			
			11.20.14 (1)						
			11.21.14 (1)						
December		12.18.14 (1)		12.18.14 (1)	**12.09.14 (1)**		12.5.15 (1)		
January	1.13.15 (2)		1.8.15 (3)					1.14.15 (1)	1.7.15 (1)
			1.9.15 (1)					1.29.15 (1)	
			1.12.15 (1)						
			1.14.15 (1)						
February	2.10.15 (3)				2.23.15 (1)			2.10.15 (1)	**2.6.15 (1)**
								2.18.15 (1)	2.18.15 (1)
								2.23.15 (1)	
								2.25.15 (1)	
March			3.3.15 (1)		**3.31.15 (1)**		3.13.15 (1)	3.2.15 (1)	3.26.15 (1)
			3.24.15 (1)					3.17.15 (1)	
								3.22.15 (1)	
April					**4.16.15 (1)**			4.16.15 (1)	**4.23.15 (1)**
									4.24.15 (1)
May	**5.15.15 (1)**		**5.19.15 (1)**		**5.12.15 (1)**			**5.21.15 (1)**	5.11.15 (1)
					5.20.15 (1)				5.12.15 (1)

* Planning Meeting Dates indicated in **bold** text

Table 4: ST Math Onsite Classroom Modeling
January 14-July 2, 2015

District	Building	Date
Hilliard City Schools	Beacon Elementary School	1/14/15
Liberty Union-Thurston Local Schools	Liberty Union Elementary School	2/24/15
Lancaster City Schools	West Elementary School	2/25/15
Hilliard City Schools	Darby Creek Elementary School	2/26/15
Worthington Schools	Wilson Hill Elementary School	3/26/15
Hamilton Local Schools	Hamilton Elementary School	4/1/15
Hilliard City Schools	Brown Elementary School	4/30/15
Columbus City Schools	Gables Elementary School-Summer Program	6/16/15
Columbus City Schools	Gables Elementary School-Summer Program	6/29/15
Columbus City Schools	Oakmont Elementary School-Summer Program	7/2/15

Source: ST Math email correspondence July 22, 2015

Table 5: Knowledge Capture Math Matters Activities
August 2014-June 2015

KC Math Matters Activities Overview					
School Designation	Observations	Interviews	Focus Groups (FG)		Surveys
	ST Math Events (n=71)	Administrators (n=20)	FG Sessions (n=15)	FG Participants (n=91)	Respondents (n=91)
Elementary School	36	8	10	48	71
Middle School	14	3	4	22	15
Junior High School	2				3
High School					2
All Grade Levels	19	9	2	21	
TOTALS:	71	20	15*	91	91

*One focus group consisted of both elementary and middle school teachers and therefore the actual total is 15 Focus Groups

Table 6: Chronology of Knowledge Capture
Math Matters Administrator Interviews
Spring 2015

KC Staff	Date	Event	BP*	Participants
MSH/MGC	3/5/15	Interview	Yes	District Lead
MSH/MGC	3/10/15	Interview	Yes	District Lead
MSH/MGC	4/8/15	Interview	Yes	District Lead
MSH/MGC	4/10/15	Interview	Yes	District Lead
MSH/MGC	4/13/15	Interview	Yes	District Lead
MSH/MGC	4/13/15	Interview	Yes	District Lead
MSH/MGC	4/14/15	Interview	Yes	District Lead
MSH/MGC	4/15/15	Interview	Yes	District Lead
MSH/MGC	4/15/15	Interview	Yes	District Leads (3)
MSH/MGC	5/11/15	Interview	Yes	District Leads (2)

*BP=Bullet Point Report

Table 7: Knowledge Capture Math Matters Focus Groups
April-June 2015

Focus Groups (n=15)					
Districts	# of FGs	# of Participants (n=91)	ES (n=48)	MS (n=22)	K-12 (n=21)
Hamilton	1	n=5	✓		
Gahannna	1	n=8		✓	
Liberty Union	1	n=5	✓		
Worthington	3	n=7	✓		
		n=9	✓		
		n=5	✓		
Pickerington	2	n=4		✓	
		n=8		✓	
Hilliard	3	n=5	✓		
		n=2	✓		
		n=4	✓		
Lancaster	1	n=4	✓		
CCS	1	n=4	✓	✓	
Train the Trainer*	2	n=11			✓
		n=10			✓

*Participants in Train the Trainer Focus Groups are not included in the ES/MS breakdown

Administrator Interview Questions
Math Matters

1. When did you learn about ST Math?
    a. How did information about ST Math reach you?
    b. Did you hear about it in a school/district meeting?

2. Was your school/district asked/invited/selected to participate or did you request ST Math for your school/district?

    a. How did you decide who would be trained (grade level teachers, intervention specialists including ELL, Special Ed)?

    b. Were staff given the opportunity to volunteer to be trained or was it mandated?

    c. Are others who were not included in Y1 training requesting ST Math for their students?

    d. Have you heard any interest from students who are asking about ST Math (currently not in a classroom using ST Math)?

3. What process are you using to implement ST Math in your building/district?

    a. Did you select onsite training, webinars, or self-guided training options?

    b. Are teachers who have had training asked to teach others in the building?

        i. Have trained staff begun working with others in the building?

4. Are you implementing a 'train-the-trainer' model currently or in the future?

    a. If you are currently implementing the train-the-trainer model, is it effective in your building/district?

5. What is the model for sustainability going forward into Y2-Y5?

6. How often do you review your building/district's ST Math data?
    a. How is this data helping you?

Teacher Focus Group Questions
Math Matters

1. What grade do you teach, and how long have you been an educator?
2. When did you get your training for ST Math, and how were you trained?
3. How is ST Math used in your classroom?
4. What kinds of opportunities have you had for sharing ST Math best practices with others in your building? If so, what have you shared?
5. What do you see as the most important benefits of ST Math?
6. What has been the biggest challenge with using ST Math in your classroom?
7. What kind of feedback have you had from your students about ST Math?
8. What kind of feedback have you had from parents about ST Math?
9. How do you see using ST Math with your students moving forward?
10. Is there any additional support you'd like to have for using ST Math?

Focus Group Questions
Math Matters: Train the Trainer
June 2015

1. How long have you been an educator
    a. What is your current role?

2. How did you come to be involved in TTT?
    a. Volunteered when told about opportunity
    b. Requested by administrator in your district

3. What is the current plan for training teachers to use ST Math in your district?
    a. What will your role be?
    b. How many buildings do you project will be using ST Math?
    c. What grade levels?

4. What do you see as the most important benefit of ST Math for students?

5. How do you define blended learning?
    a. How would you describe your district plan for advancing blended learning at the classroom level?

6. What has been the biggest challenge with using ST Math in your building/district to date?
    a. Technology
    b. Scheduling
    c. Communication
    d. Training

7. How do you plan to engage/foster teacher buy in?

8. What kind of feedback have you had from teachers in your building/district about ST Math?

9. Is there any additional support you'd like to have for training others to use ST Math?

10. How do you envision using ST Math to support differentiated learning?

11. How can data from ST Math be used to assess student growth?

12. How will ST Math fit into your school's schedule? How is technology distributed throughout your schools?

PAST InnovationLab
access through education

ST Math Teacher Survey May 2015

* 1. **This is an anonymous survey. The PAST Foundation will use this survey data to assess the implementation of ST Math in the nine Math Matters School Districts. Completing this survey will give you the opportunity to share your insights and concerns anonymously.**

Your participation in this research is voluntary. You may choose not to participate. By checking the response below that states you agree to participate in this survey, you confirm that you have read and understand the PAST Foundation's Online Survey Anonymity Protocols provided for your review on the PAST Foundation website. You may review these protocols at any time on the PAST Foundation website (www.pastfoundation.org/xxx).

- ❍ I agree to participate in this anonymous survey

2. **What grade level is your school building?**
   - ❍ Elementary School
   - ❍ Intermediate School
   - ❍ Middle School
   - ❍ Junior High School
   - ❍ High School
   - ❍ If other, please describe

   _____

3. **What is your position in your school building?**
   - ❍ Classroom Teacher
   - ❍ Special Education Teacher
   - ❍ Gifted Teacher
   - ❍ ESL/ELL Teacher
   - ❍ ESL/ELL Aide
   - ❍ Intervention Specialist
   - ❍ Instructional Coach
   - ❍ Technology Teacher
   - ❍ If other, please describe

   _____

4. **What do you teach?**
   - ❍ All subjects
   - ❍ Math
   - ❍ English as a second language
   - ❍ Math Intervention
   - ❍ Reading Intervention
   - ❍ Technology

❍ If other, please describe

_____

5. **What grade(s) do you teach? (Please check all that apply)**
   - ❑ K
   - ❑ 1
   - ❑ 2
   - ❑ 3
   - ❑ 4
   - ❑ 5
   - ❑ 6
   - ❑ 7
   - ❑ 8
   - ❑ 9-12
   - ❑ K-12
   - ❑ If other, please describe

   _____

6. **How were you trained in using ST Math? (Please check all that apply)**
   - ❑ On-site training sessions led by ST Math staff
   - ❑ Classroom visits from ST Math staff
   - ❑ Self-guided online courses
   - ❑ Webinar participation
   - ❑ Training by others in your building/district
   - ❑ If other, please describe

   _____

   _____

7. **Have you taken any other ST Math surveys during the 2014-2015 school year? (Please check all that apply)**
   - ❑ Post onsite training survey
   - ❑ Mid-year online survey
   - ❑ Other (e.g. post-webinar, or online module completion), please describe

   _____

   _____

8. **What were your top three challenges in your initial implementation of ST Math in your classroom?**
   1. _____
   2. _____
   3. _____

9. **When do your students play ST Math games? (Please check all that apply)**
   - ❑ During math class time
   - ❑ During other class time
   - ❑ After school (in the building)
   - ❑ Recess

- ❑ Free time during the school day
- ❑ At home
- ❑ If other, please describe

_____

_____

10. **How often are you using ST Math for instruction in your classroom?**
    - ❍ 1 time per week
    - ❍ 2-3 times per week
    - ❍ 4-5 times per week
    - ❍ I do not use ST Math for instruction

11. **How often and in what ways do your students work with ST Math? (Please check all that apply)**

	One day a week	Two days a week	Three days a week	Four days a week	Every day
Math class (stations/rotations)	❍	❍	❍	❍	❍
Math class (individual one-to-one computers/tablets	❍	❍	❍	❍	❍
Math class (small group instruction)	❍	❍	❍	❍	❍
Math class (whole group instruction)	❍	❍	❍	❍	❍
Computer lab	❍	❍	❍	❍	❍
Intervention	❍	❍	❍	❍	❍
Enrichment	❍	❍	❍	❍	❍
ST Math homework assignments	❍	❍	❍	❍	❍

12. **What type of instructional strategies do you use with ST Math? (Please check all that apply)**
    - ❑ During direct instruction
    - ❑ Coaching students through facilitating questions (small group)
    - ❑ Coaching students through facilitating questions (whole class)
    - ❑ If other, please describe

_____

_____

13. **Please describe how you define blended learning for your classroom.**

_____

_____

_____

_____

14. **Do your students share what they have learned during ST Math time in ways that help advance their ability in "thinking about thinking"? (Please check all that apply)**
    - ❑ With other students in small group settings or one-on-one
    - ❑ With the class as a whole
    - ❑ Working with the teacher one-on-one

- ❑ With self-reflection and journaling
- ❑ I haven't asked my students to share what they have learned
- ❑ If other, please describe

_____

_____

15. **What are the benefits of using ST Math for students?**

	Strongly Agree	Agree	Disagree	Strongly Disagree	Unsure
Students have a positive attitude about math and math learning	❍	❍	❍	❍	❍
Students show more perseverance when facing challenging problems	❍	❍	❍	❍	❍
Students more frequently talk about math concepts with each other	❍	❍	❍	❍	❍
Students exhibit a greater depth of knowledge when talking about math concepts	❍	❍	❍	❍	❍
Students score better on class quizzes and tests as a result of using ST Math	❍	❍	❍	❍	❍
Students who are hardest to reach in math learning are more willing to engage in ST Math	❍	❍	❍	❍	❍

16. **In your view, are there other benefits of using ST Math for students? If so, please describe up to three examples.**

1 _____

2 _____

3 _____

17. **Do you and your students use any of the following during ST Math time? (Please check all that apply)**

- ❑ Whiteboard
- ❑ Worksheets
- ❑ Paper and pencil
- ❑ Manipulatives
- ❑ Game mats
- ❑ If other, please describe

_____

_____

18. **When do you have opportunities to discuss ST Math with others in your building?**

	Daily	Weekly	Bi-monthly	Monthly	Not at all

Professional Development	❍	❍	❍	❍	❍
Staff Meetings	❍	❍	❍	❍	❍
Planning Time	❍	❍	❍	❍	❍
Grade Level Meetings	❍	❍	❍	❍	❍
Subject Area Meetings	❍	❍	❍	❍	❍
Informally	❍	❍	❍	❍	❍

19. **Have you used any of the following implementation strategies to support ST Math in your classroom? (Please check all that apply)**
- ❑ Creative scheduling
- ❑ Data notebooks
- ❑ Sticker posters
- ❑ Curriculum integration
- ❑ School-wide technology resources schedule
- ❑ Grade-level technology resources schedule
- ❑ If other, please describe

_____

_____

20. **Have you used other online math programs in past years with your students?**
- ❍ Yes
- ❍ No

If yes, which ones?

_____

_____

21. **Have you accessed any of the following from the ST Math Teacher Resource site? (Please check all that apply)**

- ❑ Training videos
- ❑ Videos to share with students
- ❑ Game mats
- ❑ Fluency worksheets
- ❑ Parent letter template
- ❑ "JiJi culture" materials, such as postcards, etc.
- ❑ I haven't explored the Teacher Resource site
- ❑ I haven't had any information on how to use the Teacher Resource site
- ❑ If other, please describe

_____

_____

22. **Is there any additional support you'd like to have to improve your ability to use ST Math?**
- ❍ Yes
- ❍ No

If yes, please describe three suggestions you believe would improve your use of ST Math

APPENDIX

Math Matters: Knowledge Capture Interview Reports (4)

Fairfield and Franklin Counties

Elementary Schools (All Districts)

Note: Interview Reports are coded to assure participant anonymity. For example, codes appear as a series of numbers and letters (1-9-MS-33) where the first number represents the county, the next number indicates the district, the letters refer to grade level (e.g., elementary school (ES); middle school (MS); and high school (HS); and K-12 (K-12-ALL), and the last number in the series signifies the school building. Participant codes appear as a singular number from 1000 to 3000 (1001 or 3002) where 1000 represents District Leads, 2000 represents Building Administrators, and 3000 represents Teacher Leaders. Citations in the Interview Reports appear as a series of numbers [3007:8] where the first number indicates the participant's number and the next number refers to the line number within the Interview transcription.

Math Matters
Interview Bullet Point Report 1-4-ES-21-2002
April 15, 2015

Interviewer: Monica Hunter
Note taker: Maria Green Cohen
Participant: 2002

Introduction:

After discussing the interview protocol and coding, the interviewer asked a variety of questions about implementation, reviewing data, and training. [2002] had previously attended a presentation where ST Math was discussed and saw value in the program. It fits well with common core, and it teaches math without words [2002: 117]. Over the summer, ST Math contacted [2002] about setting up the program; however, because of some communication issues with the district and county, [2002] was unaware that the school had received access as part of the Straight A Grant and initially ignored the e-mails [2002: 29, 31]. [2002] felt that this initial miscommunication delayed implementation at the school [2002: 39]. Overall, [2002] has had positive experiences with the MIND Educational Consultant and is very positive about ST Math. In year two, [2002] is going to emphasize using the data reports more effectively and classroom facilitation. [2002: 81]

Implementation Strategies:

- School did not begin implementation until November [2002: 39]
    - [2002] felt that it would have had a greater impact if they had been able to start sooner [2002: 39]
- Usage
    - Recently began using ST Math as homework at teachers' discretion [2002: 143, 153]
        - Letters about ST Math were sent to parents with report cards [2002: 143]

Reviewing Data:

- Building use
    - [2002] has reviewed data regularly [2002: 81]
        - Planning to prioritize ST Math data reviews in future [2002: 81]

        - Included ST Math data in weekly staff bulletins [2002: 81]
            - Highlighted classes that needed to increase time [2002: 81]
    - [2002] will be correlating ST Math data with STAR data when students have finished taking the test [2002: 85]
- Classroom use
    - Some teachers may not be using the data reports effectively [2002: 129, 133]
        - Goal of improving data report usage in year two [2002: 129, 133]

Training:

- Training with Educational Consultant
    - All teachers received ST Math training [2002: 57, 67]
        - [2002] felt training entire staff was important for complete buy-in [2002: 57]
        - Received early dismissal training session with Educational Consultant [2002: 67]
        - Students completed password training before teachers' session with Educational Consultant [2002: 69]
    - One teacher is attending Train the Trainer [2002: 157]
        - No teachers volunteered [2002: 157]
    - [2002] and one teacher are attending June Academy [2002: 159/161]
- Self-guided training
    - Attended webinars and completed online courses prior to training with Educational Consultant [2002: 67, 109]
    - Staff was very open to completing online courses within appropriate time frame [2002: 127]
- School-based support
    - Teachers have been calling school's technology teacher instead of calling ST Math directly [2002: 190]
        - Technology teacher position is being eliminated because of budget cuts [2002: 190]
- Support from Educational Consultant [2002: 127]

Achievements:

- Administrative engagement
    - [2002] sees value in ST Math [2002: 85]

    - Has been reviewing reports from ST Math and included data in staff bulletins [2002: 81]
        - Highlighted classes that needed to increase time [2002: 81]
- Student Engagement
    - Students love the program [2002: 137]
- Teacher buy-in [2002: 129]
- Parent Engagement
    - One parent discussed how much they like ST Math during parent-teacher conference [2002: 149]
        - No parents have complained about it [2002: 151]
    - Parents were informed about ST Math homework via letters sent home with report cards [2002: 143]
- Classroom Connections
    - Facilitation training can help teachers become more effective in the classroom for other subjects [2002: 202]

Challenges:

- Communication issues
    - Lack of communication from Superintendent [2002: 29, 31]
        - [2002] was unaware that the school was getting ST Math [2002: 29, 31, 117]
        - Initially unsure about which grade levels were included in ST Math implementation [2002: 107, 119]
    - ST Math contacted principal before official beginning of the grant period [2002: 29, 31, 117, 119]
        - Disregarded initial e-mails from ST Math because unaware of the program [2002: 29, 31]
    - Didn't begin implementation until November [2002: 37]
    - The school year had already begun by the time Grant Facilitator came to explain the grant [2002: 111]
- Student Engagement
    - Some of the [Special Population] math students are used to memorizing procedures [2002: 139/141]
        - ST Math has illuminated some of the limits in their skills [2002: 139/141]
- Time
    - PD for PARCC testing limited the available ST Math training time [2002: 41, 43, 45, 47]
    - Difficult finding time for ST Math [2002: 169, 171]

    - Much of the planning and implementation was handled by [2002] because the school does not have curriculum coordinators [2002: 125]
        - Next year, [2002] will be handling a lot of tech support for the school [2002: 184, 188]
- Technology
    - Technology was limited before receiving Chromebooks from the grant [2002: 49]
    - Classroom computers are slowly breaking down and not being replaced [2002: 41]
    - PARCC limited available technology [2002: 171]
- Data
    - Having few students per grade level makes data hard to analyze for trends and patterns [2002: 57, 59]
        - Scores can vary wildly from year to year even with the same teacher [2002: 57, 59]
    - Struggling to meet state testing benchmarks for 5th-8th grade math [2002: 57]
- Budget cuts
    - Lost technology teacher/ technology support person for the building [2002: 176]
        - [2002] will need to know how to set up ST Math for students [2002: 176]
        - Teachers were using technology support person instead of contacting ST Math with technical issues [2002: 176]

Recommendations:

- Data Reports
    - [2002] would like teachers to use data reports more effectively [2002: 129, 133]
    - [2002] would to use data reports more effectively [2002: 81]
    - Reviewing data reports might illuminate need for more PD [2002: 202]
- Sustainability
    - [2002] is trying to find creative ways of making teachers accountable for continuing ST Math use [2002: 169]

Math Matters
Interview Bullet Point Report 1-2-ES-12-2020
April 13, 2015

Interviewer: Monica Hunter
Note taker: Maria Green Cohen
Participant: 2020

Introduction:

After discussing the interview protocol, coding, and the upcoming survey, the interviewer asked a variety of questions about implementation, reviewing data, and training. Respondent learned about the program at a training session at [1-5-ALL-ALL] [2020: 2]. Along with presentations about available grants, there was a presentation about ST Math from a MIND Representative [2020: 10]. Based on these presentations, principals and superintendents discussed which grants would work for their schools. Math Matters was the only grant [2020] chose to participate in [2020: 10, 16]. They were intrigued by the research behind ST Math and thought it could help their floundering math scores [2020: 18]. The program has been implemented K-4 [2020: 20].

Implementation Strategies:

- Usage
    - Teachers were late implementing because of technical issues [2020: 156, 162]
    - [2020] felt initial implementation was a "disaster" [2020: 289, 313, 315]
        - Overcame most issues and program gained momentum over the school year [2020: 313, 315]
    - Intervention teachers are using the program with their students [2020: 30]
        - Intervention time is divided, 3 weeks math, 3 weeks reading [2020: 36]

Reviewing Data:

- Teacher Use
    - Teachers were able to monitor student progress with data frames [2020: 106]

        - Still learning how to use data reports effectively [2020: 108]
- Administrator Use
    - [2020] receives progress reports, but reviewing them is low priority [2020: 156]

Training:

- Training with Educational Consultant
    - Intervention teachers have not had training, but they have monitored ST Math sessions [2020: 30]
    - Teachers received both Part 1 and Part 2 training in two half-day sessions [2020: 51]
        - Trainings were conducted by a few different trainers from ST Math [2020: 60, 62, 64, 68, 72]
            - Teachers liked some trainers better than others [2020: 68, 70, 90]
            - Teachers were disappointed that they didn't receive training consistently from same regional Educational Consultant [2020: 66]
    - Educational Consultant was able to develop PD sessions based on teacher and principal questions [2020: 112]
    - Teachers are unsure what Train the Trainer will do for them or the school [2020: 216, 220]
    - Educational Consultant did a lesson about how to use ST Math in the classroom [2020: 74]
        - Demonstrated teacher mode, using ST Math in class, and entwining the program with Eureka math [2020: 74]
- Self-guided training
    - One teacher took a webinar class [2020: 124]
        - Finding it challenging to find time to review all of the sections to receive credit [2020: 126, 128]
- ST Math Support
    - [2020] was unaware of MIND Research hotline [2020: 206, 208]
    - Unsure about whether they will have access to Educational Consultant in years 2-5 [2020: 221, 224]
        - Unsure whether district will have to pay for additional training sessions [2020: 234]
- School Visits with Educational Consultant [2020: 58]

Achievements:

- Blended Learning
  - [2020] witnessed a teacher using ST Math during evaluation [2020: 76]
    - Used hands on activities, ST Math, and Eureka seamlessly [2020: 76]
- Teacher Engagement
  - One reading specialist had positive experiences with the program [2020: 130]
  - Teachers have been encouraging students to use ST Math at home
  - ST Math has given the school a bit of energy [2020: 142, 148]
    - ST Math is not graded by ODE and it isn't graded by teachers [2020: 148]
      - Doesn't cause additional work for teachers [2020: 148]
    - Provides a common bond from K-4th grades [2020: 142, 148]
    - Gives everyone a common goal [2020: 142]
  - [2020] is confident that everyone is prepared to jump in with the program next year [2020: 301]
- Student Engagement
  - Students love the program, cheer when they get to use it [2020: 132]
  - Students take their goals seriously [2020: 132]
- Technology
  - Even with delays in distributing Chromebooks, school was ahead of other county schools in November [2020: 156, 158]

Challenges:

- Training
  - [2020] felt ST Math have been caught off guard by the quantity of schools starting the program at once [2020: 114, 122]
    - Some teachers felt their relationship with other trainers was more impersonal or that they were being "passed off" [2020: 94, 112]
  - PD was based on school needs but wasn't sure what needs would be when starting the program [2020: 286, 289]
  - [2020] and teachers were unaware of the training resources available to the them this year and going forward [2020: 196, 307]
- Time

    - Schools didn't know if they had received the grant until August [2020: 118]
    - Teachers who attend PD over the summer are allowed extra days off during the school year [2020: 268]
        - Difficult to plan [2020: 270]
- Technology
    - Delay in distributing Chromebooks because each computer needed to be set up individually [2020: 156, 158]
        - Only one tech person available [2020: 156]
    - School could not choose technology to purchase [2020: 156, 319]
        - Chromebooks were different from other devices at the school [2020: 156, 162]
        - Some teachers were more tentative about using new technology [2020: 168]
        - Some technical issues early in the process of introducing Chromebooks [2020: 156, 158, 162, 289]
    - Technical issues accessing ST Math with older devices [2020: 170]
        - Giving older devices to another school next year [2020: 178]
    - Without older devices, school will have devices for only 3/5 of students [2020: 178]
        - All Chomebooks will need to be used for testing next year [2020: 180, 200, 202]
        - Using Chromebooks for testing will require practice time [2020: 200, 202]
        - Demands for technology for some grades will limit access for other grades [2020: 202]
    - Internet access, building infrastructure [2020: 200]
- Competing initiatives
    - Multiple new initiatives and personnel in the district [2020: 268]
- Blended Learning
    - Teachers are helping students with ST Math, but they aren't making it part of instruction [2020: 276]
- Passwords
    - Kindergarten had difficulty learning passwords [2020: 286, 289]
        - Want to get students into the program rather than password training [2020: 286, 289]

Recommendations:

- Training

    - Teachers may have learned about data reports before they were ready for them [2020: 108, 110]
    - Create a model for PD that school leaders and teachers can look at to understand where they are, what they need, and where they need to be [2020: 293, 297]
        - A "menu" help to plan their PD needs [2020: 293, 297]
        - Give a view of the larger picture [2020: 297]
- Facilitation
    - Encouraging teachers to have more interaction with students on ST Math [2020: 276]
- Passwords
    - Helpful if ST Math could provide a list of passwords for kindergarten and first grade students [2020: 286]
- Technology
    - It would have been helpful to know about the technology coming to the school prior to distribution and use [2020: 289]

Math Matters
Interview Bullet Point Report 2-3-ES-64-2021, 3006
May 11, 2015

Interviewer: Monica Hunter
Note taker: Maria Green Cohen
Participants: 2021, 3006

Introduction:

After discussing the interview protocol and coding, the interviewer asked a variety of questions about implementation, reviewing data, and training. [2021] and [3006] learned about ST Math from teachers who attended a professional development workshop about ST Math in spring 2014 [2021: 15].

Implementation Strategies:

- Usage
  - School has implemented ST Math for all grades K-3 [3006: 25]
    - As a district, they have access K-8 [3006: 29]
  - Grades 7-8 use ST Math for intervention [3006: 31]
  - Most intervention teachers have not been using ST Math regularly [3006: 151]
    - They have been trained [3006: 151]
    - Leadership team would like to get more comfortable with program before including intervention [3006: 151]
    - ST Math has been used in after/before school tutoring programs [3006: 151]

Reviewing Data:

- Building Use
  - Data meetings with Math Improvement Committee [3006: 74]
    - Discuss building progress [3006: 74]
  - Educational Consultant has not attended a data meeting [3006: 76]
  - Educational Consultant e-mails reports [3006: 76]
- Teacher Use
  - Some teachers are not using data reports regularly to monitor student progress [3006: 133]
  - Teachers are able to recognize and address issues visible on the data frames [3006: 133]

Training:

- Training with Educational Consultant
  - [3006] will be attending Train the Trainer with an intermediate school teacher [3006: 33]
  - Educational Consultant has visited to demonstrate facilitation and answer questions [3006: 78]
  - Trainer from ST Math trained K-1 teachers how to use ST Math as a math lesson [3006: 78]
  - One teacher has signed up for June Academy [3006: 98]
    - Belief that many of the teacher leaders already feel comfortable with the program [2021: 154]
- Self-guided Training
  - All of the teachers in the building did the first webinar module together [3006: 47]
    - Strongly encouraged teachers to continue through the modules [3006: 49]
      - PD time could be used to complete modules [3006: 49]
    - All teachers have gone through at least 4 modules [3006: 72]
- School-based support system
  - [2021] and Curriculum Coordinator met with teachers individually or with grade levels to address questions, concerns, or implementation [3006: 51]
  - Created an informal Train the Trainer model [2021: 52]
    - Math improvement committee became experts and provided support to other teachers [2021: 52]
  - Number of teachers in the school limited types of training that are feasible [2021: 86]
    - Full group training is difficult [2021: 86]
    - Teachers seek out the training that works best for them [2021: 86]

Achievements:

- Student Engagement
  - Students love the program [3006: 90; 2021: 91]
    - Enjoy video game aspect [3006: 90]

    - Students will be prepared to continue the program when they move to the next grade building [3006: 72]
    - ST Math has been used in before/after school tutoring program [2021: 152; 3006: 151]
- Teacher Engagement
    - About 98% of teachers are involved in ST Math [2021: 41]
    - School made use of existing Math Improvement Committee during implementation [2021: 52]
        - Committee became the experts about the program [2021: 52]
        - Provided support for other teachers [2021: 52]
    - Teachers feel ownership because they are training and helping one another (88)
        - [2021] sharing leadership [2021: 88]
    - Teachers appreciate that ST Math is self-guided and can be used while teachers are doing direct instruction with other students [2021: 152]
    - [2021] and teachers find program very user-friendly [2021: 154]
    - Teachers find program a great way of improving math knowledge [2021: 154]
- Blended Learning
    - Teachers have been using blended learning [3006: 125]
- Competing Math Programs
    - ST Math is supplanting Scootpad and XtraMath [2021: 104; 3006: 114]

Challenges:

- Technology
    - Lack of devices [2021: 39, 62, 94; 3006: 60]
        - Kindergarten and 1st grade don't have classroom computers that can run the program [3006: 60]
        - Computer labs help to alleviate some problems [3006: 60]
            - School will be receiving more devices next year [3006: 60; 2021: 62]
    - Many of current devices will not run program [2021: 39]
- Administrative Engagement
    - [2021] believes that ST Math is not a useful resource for some classrooms [2021: 43]
    - [3006] is unsure of role in the district for years 2-5 [2021: 143]

- Teacher buy-in
  - Teachers have resisted learning more about the program because of the lack of technology [3006: 72]
- Training
  - The large quantity of teachers at the school has made training complicated [2021: 86]
  - [2021] believes that many of the teacher leaders already feel comfortable with the program and are hesitant to sacrifice summer vacation for June Academy [3006: 100; 2021: 154]
- Data Reports
  - Teachers are unaware of how to effectively use data reports [3006: 133]

Recommendations:

- Expansion
  - Planning to collaborate with middle school more in 2014-2015 school year [3006: 33]
- Technology
  - School is contemplating the best way to distribute devices purchased for next year [2021: 68]
    - Exploring two major options [2021: 68]
      - Making 4 computer carts of 30 which could be checked out [2021: 68]
      - Building smaller learning centers which could be used daily [2021: 68]
- Blended Learning
  - School would more opportunities for teachers to see ST Math used in math lessons [3006: 78]
    - [3006] would like to do classroom modeling of ST Math based lessons [3006: 160]
- JiJi Culture
  - [3006] would like to develop JiJi culture next year [3006: 93]
    - Hindered by lack of access in 2014-2015 school year [2021: 94]
- Data Reports
  - Getting teachers to use data reports more effectively [3006: 133]
- Training
  - [3006] would like to have more PD and classroom visits with Educational Consultant during school year [3006: 158]

Math Matters
Interview Bullet Point Report 2-4-3004
April 8, 2015

Interviewer: Monica Hunter
Note taker: Maria Green Cohen
Participant: 3004

Introduction:

After discussing the interview protocol, coding, and the upcoming survey, the interviewer asked a variety of questions about implementation, reviewing data, and training. [3004] learned about ST Math through the [1-5-ALL-ALL]. They piloted the program, and [3004] felt that it had a lot of promise [3004: 4]. [3004] encouraged the district leadership to participate in the Straight A Grant [3004: 4]. While piloting the program, the [3004] noticed that grades that implemented the program with the most fidelity had gains in achievement [3004: 10]. District believes in "personalized learning", so there is no set curriculum for any content area [3004: 12]. District saw ST Math as a potential resource for teachers [3004: 12].

Implementation Strategies:

- Usage
  - Program is being used K-5 this year [3004: 14]
  - Buildings and teachers are allowed to choose how to use it for their populations [3004: 68]
  - Some teachers are allowing access to new material at home, while others are only allowing access to completed material [3004: 110]
- Priorities
  - Priority was given to [Special Populations] students [3004: 36, 70]

Reviewing Data:

- Building Use
  - [3004] is using data reports for grade level reports in data teams at her building [3004: 177]
  - Building administrators are receiving data reports, but [3004] is unsure if they are using them [3004: 171]

Training:

- Training with Educational Consultant
  - Initial training was held in September with Part 2 held in October [3004: 36, 120]
    - Intervention specialists, intervention tutors, [Special Population] teachers, [Special Population] tutors, and [Special Population] teachers were invited to training [3004: 36]
    - Buildings were also invited to send one teacher from grades K-2 and one teacher from grades 3-5 [3004: 36]
    - Math coaches were not invited because they had other priorities [3004: 38]
  - Educational Consultant did training sessions on a waiver day [3004: 38]
  - Educational Consultant did a two-hour mini training in February [3004: 52]
    - Five teachers attended [3004: 52]
  - Approximately 1% of teachers in the district were trained [3004: 54]
  - Educational Consultant conducted mini-trainings at some schools [3004: 94, 98]
  - Two Math Coaches were invited to Train the Trainer summer sessions [3004: 142]
  - Teachers felt comfortable with the program after first training [3004: 82]
- Training with School/District Personnel
  - [3004] did an overview of ST Math at one of the Math Coach meetings [3004: 38]
  - [3004] conducted a training session for math coaches on using ST Math [3004: 38]
    - Only 5 of the 14 district math coaches attended the training session [3004: 38]
    - Next year Math Coaches will be more involved [3004: 38]
  - [3004] is offering a 4 day workshop in June about blended learning with ST Math [3004: 142, 146]
    - Full group lessons [3004: 146]
    - Exploring puzzles aligned with curriculum [3004: 146]
    - Reviewing reports/alerts [3004: 146]
    - Structure will be determined by those who sign up – fractions won't be included if only K-2 sign up [3004: 161]

- School-based Support System
  - At [3004]'s building, trained teachers shared information with their colleagues [3004: 84]
- School visits with Educational Consultant [3004: 98]

Achievements:

- Technology
  - Strong community/school effort to make technology accessible to students [3004: 74, 76]
    - After school programs [3004: 74]
    - Family without computers at home use public library computers [3004: 74]
- Implementation
  - [3004] has realistic plans for implementation [3004: 108]
    - Goal to get more teachers involved in future years rather than overwhelming everyone in Year 1 [3004: 108]
  - Overall, implementation has been a "very positive experience" [3004: 138]
- Parent Engagement
  - Some teachers have sent ST Math letters home to parents [3004: 116]
    - Spanish language versions were helpful [3004: 116]
- Teacher buy-in
  - Information about ST Math is spreading through the district [3004: 94]
- Administration Engagement
  - [3004] created a blended learning activity for a course [3004: 167]
    - ST Math asked to share it with others [3004: 167]

Challenges:

- Usage
  - Finding ways to use the program in small groups [3004: 18]
  - Some teachers were unaware they could use the program since priority was given to [Special Populations] Students [3004: 70]
- Blended Learning/Facilitation
  - Creating opportunities for blended learning [3004: 22, 167]
    - Some definitions of blended learning are too narrow [3004: 26]
  - Encouraging effective facilitation by teachers [3004: 22]

    - [3004] unaware of role in encouraging blended learning [3004: 199]
- Technology
    - Many teachers think of computers as a replacement for pencil and paper rather than as a tool [3004: 28, 30]
    - Limited devices available make it difficult to reach goals [3004: 72]
    - Some students do not have computers at home [3004: 74]
    - In addition to ST Math grant, school began 1-to-1 initiatives at some schools [3004: 102]
        - Number of devices overwhelmed technology department and delayed delivery of devices for ST Math [3004: 102]
    - [3004] regrets not meeting with technology teachers earlier [3004: 118, 120]
        - They would have been able to provide support for password training and tech issues [3004: 122]
- Time
    - Schools were not informed that they received the grant until late in the summer [3004: 106]
    - Teachers were made aware of the program 6 weeks into school year [3004: 78]
    - Balancing speedy implementation with maintaining integrity of the message [3004: 108]
- Training
    - Math coaches and teachers who heard about ST Math through the grapevine often had misconceptions about the program [3004: 128, 167]
        - [3004] held information sessions to help clear up misconceptions [3004: 38]
        - [3004] regrets not providing information earlier [3004: 118, 120]
    - Limited Professional Development funds for subs [3004: 167]
    - Regrets not including Math Coaches in training [3004: 126, 167]
- Testing
    - Lack of a way to assess whether ST Math is helping with achievement [3004: 181, 183, 193]
        - PARCC is new this year [3004: 181]
        - Scholastic Math Inventory has some score validity issues [3004: 181, 183]

        - Projects a minimum of 2-4 years before people will feel comfortable discussing whether ST Math has helped achievement [3004: 183]

Recommendations:

- Blended Learning
    - Find effective ways to incorporate blended learning and small group use of the program [3004: 22, 167]
        - Creating opportunities for journaling where students explained their thinking, shared their documents, and gave feedback to one another using Google Docs [3004: 22, 167]
        - Using Educreations to take pictures, record audio, and share strategies [3004: 24]
    - Encourage teachers to use ST Math as a teaching resource [3004: 12, 18, 22, 24, 30]
        - Getting beyond thinking about ST Math as a replacement for pencil and paper [3004: 28, 30]
        - Using puzzles to introduce/review concepts and as an assessment [3004: 12]
- Programming
    - Would like to see the program develop more ways to have students work in small groups [3004: 18]
        - Assigning puzzles to a group of students in addition to the individualized trajectory [3004: 18]
        - Teachers would have to log each device into teacher mode to create this opportunity [3004: 18]
- Training
    - Think about computers as tools rather than a replacement for pencil and paper [3004: 28, 30]
- Parent Engagement
    - Parents in the district need additional guidance on how to help their children with ST Math at home [3004: 112, 114, 116]
        - Training teachers to talk about ST Math with parents [3004: 116]

APPENDIX

Math Matters: Knowledge Capture Interview Reports (3)

Fairfield and Franklin Counties

Middle Schools (All Districts)

Note: Interview Reports are coded to assure participant anonymity. For example, codes appear as a series of numbers and letters (1-9-MS-33) where the first number represents the county, the next number indicates the district, the letters refer to grade level (e.g., elementary school (ES); middle school (MS); and high school (HS); and K-12 (K-12-ALL), and the last number in the series signifies the school building. Participant codes appear as a singular number from 1000 to 3000 (1001 or 3002) where 1000 represents District Leads, 2000 represents Building Administrators, and 3000 represents Teacher Leaders. Citations in the Interview Reports appear as a series of numbers [3007:8] where the first number indicates the participant's number and the next number refers to the line number within the Interview transcription.

Math Matters
Interview Bullet Point Report 1-3-MS-20-2006
March 5, 2015

Interviewer: Monica Hunter
Note taker: Maria Green Cohen
Participant: 2006

Introduction:

After discussing the interview protocol and coding, the interviewer asked a variety of questions about implementation, reviewing data, and training. [2006] learned the district was implementing ST Math from the Teaching and Learning Department [2006: 8, 10]. The program was implemented K-6 in the district [2006: 10, 20]. [2006] was very positive about implementing ST Math. Different initiatives were introduced at the same time as ST Math (Springboard, Eureka, and PARCC) [2006: 36].

Implementation Strategies:

- Usage
  - Math teachers were introduced to ST Math in October [2006: 36]
    - Planned to implement earlier but feared teachers would be overwhelmed with other initiatives [2006: 36]
  - Because of scheduling at the school math teachers planned to implement ST Math with a goal of 90 minutes per week [2006: 23]
    - Teachers were instructed to aim for 30 minutes 3 days per week as a starting point [2006: 46]
    - Three blocks of time were built into the weekly schedule [2006: 46]
  - [2006] and MIND Educational Consultant built a calendar with benchmarks for syllabus progress [2006: 50]
  - Parent letters were sent home in November [2006: 50, 68]
    - Parents like having their children doing ST Math at home [2006: 50]
  - Some teachers assigned homework [2006: 64]
    - Some teachers assigned ST Math for homework on snow days [2006: 66]
  - Intervention teachers were included in inclusion settings [2006: 6, 26]

        - They also had opportunities to set aside time for ST Math and pull outs [2006: 26]
    - Each building had autonomy for implementation and training [2006: 44]
- Expansion
    - District planning to introduce ST Math to 7-8th grades next year [2006: 84]

Reviewing Data:

- Administrative Use
    - [2006] monitors syllabus progress every few weeks [2006: 50]
    - [2006] gives updates at Teacher-Based-Team meetings [2006: 50]
- Use for Special Education
    - Intervention Specialists are monitoring their class's ST Math progress [2006: 50]
- Teacher Use
    - Teachers meet in groups to review their data every 2-3 weeks [2006: 92, 100]
    - Eleven teachers are overseeing their ST Math progress [2006: 50]

Training:

- Training with Educational Consultant
    - Initial administrative training preview was the first week of October [2006: 36, 38]
        - Building leaders, instructional coaches and technology advisors were invited [2006: 36, 38]
    - Educational Consultant provided additional training [2006: 44]
        - Conducted a 45 minute training session for math teaching staff [2006: 44]
    - 1 hour of facilitation training was scheduled for PD in December [2006: 50]
        - Some teachers were hand's off during ST Math time until facilitation training [2006: 50]
        - Trying to encourage teachers to engage students in learning [2006: 50]
- Self-guided training
    - Each teacher was paid a stipend to watch the first 3-4 web courses [2006: 42]
- Training with School/District Personnel

    - Building's Instructional Coach built a lesson about password training and presented it to all of the homeroom classes [2006: 44, 50]
    - Index cards and handouts were distributed to help teachers with facilitation [2006: 44, 50]
- Multiple school visits with Educational Consultant [2006: 44]

Achievements:

- Teacher buy-in
    - All teachers but one are implementing with fidelity [2006: 50]
        - One teacher is well below goals [2006: 50, 102]
    - To increase buy-in teachers were introduced to the program in October rather than at the beginning of the year [2006: 36]
- Student Engagement
    - Three students went to State House to talk about ST Math for an event [2006: 50, 58]
    - 15 students operated an ST Math booth at a district-wide "State of the Schools" Expo [2006: 58, 60]
    - Students demonstrated ST Math at PTSO meeting [2006: 50]
    - Several students have 100% syllabus completion [2006: 60]
- Competing with another school in the district for most syllabus completion [2006: 60, 62]
- Anticipates second year use will be much smoother without having to do password training [2006: 88]

Challenges:

- Time
    - Multiple initiatives introduced at the beginning of the year delayed implementation of ST Math [2006: 36, 72]
        - Didn't want to overwhelm teachers [2006: 36, 72]
    - Limited common planning time devoted to ST Math [2006: 92]
        - Common planning time has been used for new curriculum frameworks and PARCC [2006: 92]
- Implementation
    - Training and implementation could have gone more smoothly [2006: 72]

Recommendations:

- Training

    - Would like to attend Train the Trainer sessions
    - Would like to schedule Classroom Modeling lessons [2006: 76]
    - Refresher training with an Educational Consultant early in the fall term [2006: 90]
        - Providing instruction for new teachers and refresher for current teachers [2006: 90]
- Making Connections
    - Making connections between classroom instruction and ST Math [2006: 78, 92, 94]
        - Would like to see common planning time used to align ST Math and classroom curricula [2006: 92]
- Data Reports
    - Teachers should have students reviewing their data at the end of each session [2006: 100]

Math Matters
Interview Bullet Point Report 2-2-MS-63-2013
March 12, 2015

Interviewer: Monica Hunter
Note taker: Maria Green Cohen
Participant: 2013

Introduction:

After discussing the interview protocol and coding, the interviewer asked a variety of questions about implementation, reviewing data, and training. [2013] learned about ST Math from a former colleague who sent [2013] the TED Talk about the program [2013: 2, 4, 6]. The school had been planning to "double block" math classes and was looking for an additional element to incorporate [2013: 6]. After being introduced to the program via the TED Talk, the school administration allowed teachers to vote whether or not to use the program [2013: 18]. The building has only been able to implement ST Math two grades; one grade does not use the program because of scheduling issues [2013: 20, 34].

Implementation Strategies:

- Scheduling
  - "Double blocking" math guarantees time for ST Math [2013: 6]
- Usage
  - Classes are combined so that two teachers are in the room [2013: 64]
    - Teachers do three 30 minute stations in the class [2013: 64]
- Expansion
  - Trying to find a way for some lower-performing students in non-participating grade to use ST Math [2013: 34]

Reviewing Data:

- District Use
  - Using data to as an argument for future support [2013: 40]
- Teacher Use
  - Encouraging teachers to use ST Math data reports as a way of monitoring student progress and planning future lessons [2013: 66]

    - Teachers are still learning how to read and use data reports effectively [2013: 66]
- Administrative Use
    - Reviewed important data reports with Educational Consultant [2013: 76]

Training:

- Training with Educational Consultant
    - Teachers voted to have in-person training rather than doing the online training [2013: 38]
    - School had three trainings [2013: 48]
    - Teachers are interested in summer training [2013: 38, 64]
        - School will have to select two teachers for Train the Trainer course because many teachers are interested [2013: 38, 64]
        - [2013] is debating whether to send team pairs or intervention specialist [2013: 64]
- Self-guided Training
    - One teacher looked into the online courses [2013: 50]
- ST Math Support
    - Called ST Math support hotline for help [2013: 52]

Achievements:

- Teacher Buy-In
    - Teachers see value in the program [2013: 14]
        - Regret their colleagues in non-participating grade have no access to the program [2013: 14]
        - ST Math is helpful because it can help a wide variety of kids [2013: 16, 22]
            - Allows students of wide-ranging abilities to be integrated into the same classroom [2013: 22]
        - Teachers dressed as JiJi for Halloween [2013: 70]
    - Shift in mindset about what students are capable of [2013: 22; 38]
        - Teachers were skeptical that the students would be able to learn a 16 picture password, but the students had no problems [2013: 22]
        - Teachers have gained persistence and problem solving skills [2013: 22]
- Student Engagement
    - Students are excited about the program [2013: 42]

        - Students have asked for ST Math parties and after-school time with the program [2013: 42]
        - Some students are accessing ST Math at home [2013: 44]
            - Teachers were worried that they would run out of ST Math [2013: 44]
        - Few discipline issues during JiJi time [2013: 72]
        - Students are happy to stay after school to do ST Math [2013: 72]
    - Students are rewarded for progress with stars on their lockers [2013: 24]
    - Students who have been using the program have much better persistence, problem solving skills, and fluency with technology than the students who are not using the program [2013: 20, 36]
        - These students seem to excel in the computer-based assessments [2013: 20]
- Administrative Engagement
    - [2013] has been working with [special population] classes much more often this year [2013: 22]
    - Believes that ST Math can be valuable for preparing students for high school [2013: 36]
        - Provides practice with critical thinking skills [2013: 22]

Challenges:

- Technology
    - Approximately half of the students have regular computer and internet access at home [2013: 8]
    - Occasional Wi-Fi issues [2013: 52]
    - Storing technology over the summer [2013: 64]
- Time
    - Because of scheduling issues, only two grade levels are using ST Math [2013: 20]
        - One grade does not use the program [2013: 14, 20, 34]
- Funding
    - Planning for sustaining the program after the grant funds are gone [2013: 40]
    - Choosing how to allocate grant funds – PD vs. Technology [2013: 64, 78, 106]
- Curriculum

  - Providing students with options so that the school is competitive [2013: 40]
  - Transitions from grade levels are difficult [2013: 36]
- Making Connections
  - Teachers are having trouble connecting ST Math to curriculum [2013: 66]

Recommendations:

- Programming
  - Would love to see an ST Science or ST Social Studies [2013: 24]
- Technology
  - Technology upgrades and improving internet accessed can be discussed at future levy meetings [2013: 58]
    - Use ST Math data to support argument [2013: 58]
- Creating JiJi Culture
  - Planning to have a JiJi theme for school board presentation in the spring [2013: 66]
    - Demonstrate student excitement [2013: 66]
  - Finding ways to recognize students for their progress [2013: 70]
    - Creating a JiJi Club and t-shirts [2013: 70]
    - Special rewards and discounts for school events [2013: 70]
- Parent Engagement
  - Planning an ST Math night for adults to illustrate how beneficial the program is [2013: 38]
- Training
  - Would like to see how other schools use ST Math [2013: 86]
  - Teachers would like to know how to read and use data reports more effectively [2013: 66]
- Planning
  - Using remaining grant funds to compensate teachers for summer planning time [2013: 38, 66]
    - Trying to plan student enrollment into the program [2013: 38]

Math Matters
Interview Bullet Point Report 2-1-MS-52-3007
April 14, 2015

Interviewer: Monica Hunter
Note taker: Maria Green Cohen
Participant: 3007

Introduction:

After discussing the interview protocol, coding, and the upcoming survey, the interviewer asked a variety of questions about implementation, reviewing data, and training. The respondent had knowledge about ST Math prior to implementation, and some schools in the district piloted the program in the 2013-2014 school year [3007: 8, 12]. The respondent had some experience with ST Math prior to implementation. The primary focus of the grant was to help [Special Population] students with math [3007: 12], however ST Math is available to all teachers in the schools where it is being used, so other teachers are also using the program [3007: 32, 34]. The district is planning to expand the program to other schools for the 2015-2016 school year.

Implementation Strategies:

- Usage
  - The school had a pilot program with ST Math in the 2013-2014 school year [3007: 8, 12]
    - School began ST Math in January/February of 2014 [3007: 10]
- Priorities
  - Targeted population is [Special Population] students [3007: 12]
  - The majority of staff using ST Math are [Special Population] assistants [3007: 14]
- Expansion
  - Planning to meet with Supervisor of [Special Population] and Educational Consultant to build a plan for 2015-2016 school year [3007: 136, 144]
  - Expanding the number of schools and classes using the program next year [3007: 181, 204]

        - At two schools, math leaders who attended training spearheaded implementation in their schools beyond [Special Population] classrooms [3007: 30]
    - One school has no [Special Population] teachers using the program, but it is used in non [Special Population] classes [3007: 34]
    - District developed an ST Math feeder pattern of three elementary schools, two middle schools, and one high school with help of Educational Consultant [3007: 52]
    - Additional teachers began using ST Math based on word of mouth [3007: 32, 34]

Reviewing Data:

- Teacher Use
    - Teachers would like a way to track student usage by date [3007: 117, 118]
    - Respondent uses data to identify students who are struggling with certain games [3007: 162, 164]
        - Pulls struggling students together and develops strategies with them [3007: 162, 164]
        - Uses teacher mode [3007: 162]

Training:

- Training with Educational Consultant
    - District scheduled trainings in February and March [3007: 12]
        - All targeted teachers have had training aside from one or two [3007: 12]
        - One "priority" school has no one who received training [3007: 44]
    - School with high quantity of [Special Population] students had two teachers and two assistants trained
    - Two staff members from about half of the schools in the district were trained [3007: 20]

Achievements:

- Technology
    - Tech devices have been distributed to all of the targeted schools [3007: 24]

    - Now that most of the technology has been distributed, they will be able to start using the program immediately next school year [3007: 181]
- Teacher buy-in
    - Teachers/assistants using the program love it and are grateful for it [3007: 76]
        - Teachers appreciate that they don't have to have a math background to use ST Math [3007: 76]
    - Additional teachers decided to try ST Math based on word of mouth [3007: 32, 34]
    - Teachers and students have created cards to thank district for ST Math [3007: 80]
    - Some teachers are able to support others [3007: 158]
- Student Engagement
    - About half of the [3007] students are accessing ST Math at home [3007: 107, 113]
    - Students logged-in over spring break [3007: 117]

Challenges:

- Training
    - One [Special Population] assistant position has experienced turnover twice this year [3007: 38, 40]
        - No one in the school has been trained [3007: 38, 40]
    - Teachers vary in comfort and skill with the program [3007: 158]
    - Unaware of the ST Math hotline [3007: 212]
- Technology
    - Distribution of technology was complicated by the number of schools [3007: 56]
        - Each Chromebook had to be configured individually [3007: 60]
            - Central office could only dedicate one day per week to configuring computers [3007: 62]
        - Delayed implementation [3007: 56]
        - Priority schools were given technology first [3007: 56, 62]
    - Enrolling students has been a hurdle for some teachers/assistants
        - Some staff trained at the beginning of the year attended training again [3007: 56]
            - They couldn't make sense of the program after the delay in implementation [3007: 56]

        - Some schools sent other people so they could work together [3007: 56]
        - Additional training and using the program helped make sense of the program [3007: 56]
    - Some students have limited access to ST Math at home [3007: 113]
    - Computers occasionally "forget" school log-in, which skews home log-in time [3007: 113]
- Time
    - Teaching assistants are trying to find time for both English language acquisition and math [3007: 14, 70, 74]
- Passwords
    - Password issues [3007: 78]
- Administrative Engagement
    - Some principals are hands-off with the [Special Population] departments [3007: 154]
    - Some principals aren't aware what teachers are doing with [Special Population] students [3007: 154]

Recommendations:

- Creating a JiJi Culture
    - [3007] wants to find a way to share cards made by teachers and students in support of ST Math [3007: 82, 92]
- Programming
    - [3007] and teachers would like a way to track students' dates of use [3007: 117, 119]
        - Would help to track usage over breaks and in class [3007: 117, 119]
- Administration
    - District is trying to get principals on board to discuss [Special Population] office agendas [3007: 136]
        - Educating principals about ST Math [3007: 136, 154]
        - Making a plan for next year [3007: 144]
        - Some principals don't know that everyone in their school can use the program [3007: 154]
        - Trying to connect better to other schools in the district [3007: 183]

APPENDIX

Math Matters: Knowledge Capture Interview Reports (3)

Fairfield and Franklin Counties

K-12 (All Districts)

Note: Interview Reports are coded to assure participant anonymity. For example, codes appear as a series of numbers and letters (1-9-MS-33) where the first number represents the county, the next number indicates the district, the letters refer to grade level (e.g., elementary school (ES); middle school (MS); and high school (HS); and K-12 (K-12-ALL), and the last number in the series signifies the school building. Participant codes appear as a singular number from 1000 to 3000 (1001 or 3002) where 1000 represents District Leads, 2000 represents Building Administrators, and 3000 represents Teacher Leaders. Citations in the Interview Reports appear as a series of numbers [3007:8] where the first number indicates the participant's number and the next number refers to the line number within the Interview transcription.

Math Matters
Interview Bullet Point Report 2-5-1001
April 13, 2015

Interviewer: Monica Hunter
Note taker: Maria Green Cohen
Participant: 1001

Introduction:

After discussing the interview protocol, coding, and the upcoming survey, the interviewer asked a variety of questions about implementation, reviewing data, and training. [1001] learned about ST Math summer of 2014 [1001: 2]. At first [1001] assumed ST Math was similar to other programs but was surprised at the impact of the program [1001: 2]. Throughout the interview, the respondent provided a series of anecdotes to illustrate experiences with teachers and students using ST Math.

Implementation Strategies:

- Priorities
  - At-risk populations were initially targeted for implementation – [Special Populations] [1001: 27]
- ST Math Leaders
  - Instructional Coaches have been pivotal in pushing the use of ST Math in some [Special Population] buildings [1001: 23]

Reviewing Data:

- Use for Special Education
  - Teachers are using data reports in Intervention Assistance Team sessions [1001: 6]
  - Teachers are using data reports to set [Special Population] goals [1001: 17]
- District use
  - [1001] is still learning how to use district data reports effectively [1001: 37]
- Classroom use
  - Some teachers are unaware of how they can use reports to encourage student progress [1001: 8, 45]

- Data reports are a valuable database of information for teachers and administrators [1001: 115]

Training:

- Training with Educational Consultant
  - [Special Populations] teachers were targeted for training [1001: 27]
    - Other teachers were invited [1001: 27]
  - Approximately 80 people received training [1001: 27]
    - 15 teachers have since become "cheerleaders" for the program [1001: 27]
  - One [Special Population] teacher and another teacher have been recruited for Train the Trainer [1001: 107]
  - Informed teachers about June Academy [1001: 91]
- Training with school/district personnel
  - [1001] created a list of 5 key things staff should know [1001: 4]
    - Fills in essential information for those who didn't receive training [1001: 4]
      - Facilitating questions [1001: 4]
      - Getting into and out of the program [1001: 4]
      - What the program looks like for students [1001: 4]
      - What the program looks like for teachers [1001: 4]
      - What reports say [1001: 4]
  - Math coaches conducted training sessions for teachers [1001: 29]
  - District will be offering additional ST Math PD over the summer [1001: 91, 93]
    - Teachers joining the district for 2015-2016 school year will be invited to ST Math PD [1001: 91, 93]
    - One day will be an opportunity for teachers to play ST Math [1001: 93]
      - [1001] believes it is important to play before you learn the program [1001: 93]
- Self-guided training
  - Teachers are using the manual to decode "bubble" reports [1001: 8]
  - Some teachers used webinars and online modules [1001: 29]
- School-based support system
  - Teachers who have received training are supporting those who did not [1001: 29, 47]

    - Most teachers are contacting [1001] with questions rather than ST Math [1001: 29, 47]
- ST Math Support
    - Educational Consultant and ST Math Tech Support have provided support [1001: 29, 47, 51, 55, 91]
- School visits with Educational Consultant
    - Educational Consultant provided classroom coaching [1001: 29, 35, 107, 109]
    - MIND came into buildings where things were stagnant [1001: 29, 37]
        - Educational Consultant was responsive to varying teacher interest, skills, and knowledge about the program [1001: 29, 31,33, 37]
        - After these sessions, teachers were more eager to use program [1001: 29, 37]

Achievements:

- Teacher buy-in
    - Some of the schools are encouraging their teachers to use the program
    - Teachers are successfully using the program even without training [1001: 27]
    - Students registered in the program have nearly doubled since December [1001: 23]
    - Some teachers were so enthusiastic about trying the program that they didn't wait for training [1001: 27]
    - 15 teachers in the district have become cheerleaders for the program [1001: 27]
- Parent Engagement
    - One school hosted a Math Day where parents visited the school for a half-day to interact with their children in math [1001: 67, 69]
        - Some parents wanted to review their child's data reports to see progress [1001: 67, 69]
        - Parents were very excited about the program [1001: 67]
    - School has received no negative feedback from parents [1001: 85]
- Student Engagement
    - Students were excited to see the progress on their data reports [1001:69]
    - Students are taking ownership of learning [1001: 97]

- Testing
  - ST Math helped students "endure" PARCC testing [1001: 71, 73]
    - Able to use problem solving skills on test [1001: 73]
    - Increased engagement with the test [1001: 73]
- Summer/Homework usage
  - Teachers want to assign summer homework for students [1001: 77, 81]
    - Allows students to finish the program since they started late [1001: 77, 81]
- Blended learning
  - Some teachers are creating interactive blended learning opportunities in their classrooms [1001: 97]
- Growth
  - After reviewing preliminary data, some [Special Population] students have experienced significant growth [1001: 121, 123]
  - Students are excited by this growth [1001: 121, 123]
- Administrative engagement
  - Meetings with building leaders were valuable [1001: 109]

Challenges:

- Training
  - Teachers who have not received training have misunderstandings about the program [1001: 4, 45]
    - Believed that ST Math shouldn't be used as homework [1001: 4]
    - Believed students were supposed to work on the program without teacher assistance or facilitation [1001: 4, 45]
    - [1001] corrected these misunderstandings [1001: 4]
  - Difficult to schedule dates for training [1001: 27, 107]
  - Getting substitutes for training was a challenge [1001: 27]
  - [1001] was unaware how much of an impact the program would have [1001: 4]
    - Would have encouraged more teachers to take an interest early in year [1001: 4]
    - Hard to keep up with the training with so many people using it in the district [1001: 4]
- Competing math programs
  - District has 3 other supplemental technologies [1001: 25]

        - Hesitant to require ST Math implementation because teachers loved two of those programs [1001: 25]
- Differentiated Instruction
    - Moving students between elementary and middle school curriculum was an issue
        - 6th grade students who learn 7th grade curriculum in class couldn't be moved to 7th grade ST Math curriculum [1001: 51, 57, 63, 67]
        - [Special Population] teachers who worked with 7th grade students functioning below grade level couldn't be moved to elementary curriculum [1001: 55, 57, 63]
        - Some issues were resolved after a call to ST Math [1001: 51, 55]
        - [Special Population] teachers work at multiple grade levels and in multiple buildings [1001: 51, 61]
- Technology
    - Don't have 1-to-1 computers in building [1001: 97]
- Teacher buy-in
    - Different teachers have different levels of comfort with technology [1001: 95]
- Student Engagement
    - Concern about how students will react to the program after 5 years of using it every year [1001: 115, 117]
- Funding
    - Concern about finding funds and support for the program after the grant ends [1001: 117, 124]

Recommendations:

- Training
    - [1001] wants to ensure that all teachers know 5 key things about ST Math before they begin using the program [1001: 4]
    - Would like to have Educational Consultant do 1-2 after school training sessions [1001: 109]
- Data Reports
    - Teachers should use more than just data reports to assess student achievement [1001: 8]
    - Planning to focus on encouraging building leaders and teachers to use data reports more effectively [1001: 12, 39, 45]

    - Some teachers are unaware of how they can use reports to encourage student progress [1001: 8, 12, 39, 45]
    - [1001] is still learning how to use data reports effectively at the district level [1001: 37, 39]
- Facilitation/Blended Learning
    - Teaching teachers how to facilitate [1001: 45]
    - Trying to find more opportunities for blended learning [1001: 97, 101]
- Summer
    - Would like a ST Math summer plan or curriculum [1001: 77, 81]
- Differentiated instruction
    - Difficult to move students working above/below grade level because of how buildings are divided by grade level [1001: 51, 55, 57, 63, 67]

Math Matters
Interview Bullet Point Report 1-3-1005, 1006, 1007
April 14, 2015

Interviewer: Monica Hunter
Note taker: Maria Green Cohen
Participants: 1005, 1006, 1007

Introduction:

After discussing the interview protocol, coding, and the upcoming survey, the interviewer asked a variety of questions about implementation, reviewing data, and training. During the interview, [1006] left and [1007] took [1006] place. Math is an area of concern for the district, so they were eager for the opportunity to use ST Math [1005: 2]. [1005] did research about the program before it was implemented [1005: 2]. Implementation has been well supported by MIND and Educational Consultant, and teachers, parents, and students like the program.

Implementation Strategies:

- ST Math implementation has been simpler than implementation of other technology programs
- Expansion
    - Planning to expand use to grades 7-8 and pre-kindergarten next year [1006: 10, 13]
        - Starting fall 2015, ST Math will be used at all grades from pre-k through 8th [1006: 10, 13; 1005: 14]
        - Using funds from Math Matters and FAST [1006: 10]
        - Hoping that ST Math will be helpful for pre-kindergarten [Special Population] students and disadvantaged students [1006: 13]
        - 7th grade students will get to use the program near the end of the school year [1005: 16, 18]
            - Give them experience with it before 8th grade [1005: 16]
            - Teachers will be able to plan how to use it most effectively over the summer [1005: 16, 18]

    - Alleviate some of the stress of starting a new program at the beginning of the school year [1005: 16, 18; 1006: 19]
- Usage
    - Teachers are using ST Math in a variety of ways [1005: 21]
        - Full class and station rotation [1005: 21; 1006: 24]
        - Would like to see more blended learning [1005: 21]
        - Used during Intervention and Enrichment time [1006: 22; 1006: 24]

Reviewing Data:

- Teacher Use
    - Most common question for Educational Consultant was how to use data reports effectively [1007: 69]
    - Some teachers are unaware how to use data reports to encourage and monitor student growth [1006: 24]
    - Using data in Teacher-based-Team meetings [1007: 108]
- District Use
    - [1005] has access to all of the data in the district [1005: 102, 75]
        - Matched data report information to results of STAR test [1005: 75]
    - Schools are comparing syllabus progress data with other district schools [1005: 102]
        - Encourages some schools to increase ST Math time [1005: 102]

Training:

- Training with Educational Consultant
    - School used Train the Trainer Model [1005: 44]
        - The size of the district made it difficult to send everyone to training [1005: 59]
        - At least three people from each building were trained [1005: 46, 50, 59]
            - Principals and instructional coaches were trained [1005: 50]
            - Additional people were sent at the building administrations' discretion [1005: 50]
    - Most of the principals requested additional PD with the staff, such as reviewing data reports [1007: 62]

        - Encouraged teachers to introduce students to the program before they had PD [1005: 67]
            - Teachers observed students and formulated questions to ask Education Consultant [1005: 67; 1007: 69]
    - District is sending four individuals to Train the Trainer summer session [1005: 123]
    - Planning to send teachers to June Academy [1005: 129]
- Self-guided training
    - Teachers were given a stipend to complete online modules [1005: 59]
- School visits with Educational Consultant [1005: 61; 1007: 62]
- School-based support system
    - School Instructional Coaches have been effective in working with teachers [1007: 62; 1005: 132]
- ST Math support
    - Implementation has been well supported by ST Math and Educational Consultant [1005: 61, 101, 142; 1007: 141]

Achievements:

- Student Engagement
    - Students love the program and beg to use it [1006: 28, 32; 1005: 29]
        - Building excitement about math [1006: 32; 1005: 81; 1007: 82]
        - Parents report seeing their children using it at home [1006: 32]
- Teacher buy-in
    - High teacher buy-in at some schools [1007: 91]
        - Teachers are posting JiJi materials on the walls [1007: 91]
- Blended Learning
    - ST Math has dovetailed with existing math curriculum framework and Eureka Math [1006: 6]
- Technology
    - New iPad Minis have been purchased [1005: 21]
        - Can't be used for testing, ensuring that they will be available throughout the school year [1005: 21]
        - iPads are under warrantee for five years [1005: 121]
- Parent Engagement

    - There has been no negative feedback from parents [1005: 78; 1007: 82]
- Growth
    - STAR scores are significantly higher than last year [1005: 75, 86]
        - May be the result of ST Math and/or Eureka [1005: 86]

Challenges:

- Teacher buy-in
    - One or two buildings are not using the program with as much fidelity as others [1005: 101, 116]
        - Need to change mindsets [1005: 101, 116]
    - Teachers are still "getting to know" the program [1007: 108]
        - Blended learning and effective use of data reports will hopefully come in year 2 [1007: 108]
    - Building teacher buy-in for JHS as they start implementing the program [1005: 121]
- Time
    - Time management is an issue [1007: 76, 108]
        - Teacher focus is split by competing initiatives [1007: 95; 1005: 102]
        - Finding time in the scheduled for structured ST Math time [1007: 95, 108]
    - PARCC dampened momentum [1007: 76]
- Assessment
    - Looking for a baseline to assess student achievement (PARCC or STAR) [1005: 75]
- Funding
    - After 5 years, district must allocate funds yearly for "onboarding fee" for continued access to ST Math [1005: 132]

Recommendations:

- Blended Learning
    - Integrating more opportunities for blended learning [1005: 148]
- Data Reports
    - Discuss using data reports effectively in teacher-based team meetings [1007: 108]
    - Using data from school with high syllabus completion to encourage lagging schools [1005: 102, 116]

Math Matters
Interview Bullet Point Report 1-1-1008
April 10, 2015

Interviewer: Monica Hunter
Note taker: Maria Green Cohen
Participants: 1008

Introduction:

After discussing the interview protocol, coding, and the upcoming survey, the interviewer asked a variety of questions about implementation, reviewing data, and training. Every building in the district has access To ST Math, but the primary users have been K-8 with the largest percentage K-5 [1008: 5, 7]. [1008] learned about the program when they joined the grant. [1008] did research about the program, and thought that it could be a tool that worked for a majority of the students, providing good practice, intervention, and enrichment [1008: 15, 19, 21, 25]. The school was plagued with technology issues early in the year, but many of those will be resolved when they move to new buildings. The technology issues also delayed distribution of devices. [1008: 72, 74]

Implementation Strategies:

- MIND conducted an information session at the district in August
  - Encouraged schools to identify "champions" at each building to initially roll out the program [1008: 25]
  - District developed a plan starting with building champions [1008: 5]
- Teachers are using program for short duration during Enrichment and Intervention Time and for longer spans in computer labs [1008: 84]

Reviewing Data:

- District Use
  - [1008] shared names of teachers who were reaching goals with principals [1008: 94]
  - Planning to additional STAR test to assess growth from fall to winter and fall to spring [1008: 84]
- School Use
  - Principals are getting comfortable looking at the data [1008: 94]

- [1008] has been sharing data with principals, correlating ST Math use and STAR scores [1008: 94]
- Teachers have been selected to monitor data and share it with Teacher-Based-Teams and grade levels [1008: 94]

Training:

- Training with Educational Consultant
  - At least two people from each building attended first training session with Educational Consultant [1008: 25]
    - A majority of the attendees were either intervention specialists or math teachers [1008: 33]
    - Wanted to find at least two people from each school who could answer questions and help set up classes [1008: 25, 31]
  - [Special Population] teachers and educational assistants were invited to the second training session [1008: 48]
    - Schools without [Special Population] teachers could send 2 teachers [1008: 48]
    - [Special Population] teachers didn't require substitutes during training [1008: 48]
  - Educational Consultant conducted onsite training throughout the year, set up by principals [1008: 39]
    - Three two-hour after school sessions were offered to classroom teachers [1008: 50]
    - One teacher attended multiple sessions [1008: 50]
      - Most of the teachers were K-8 [1008: 50]
      - Most of these teachers were using the program and eager to receive training [1008: 52]
  - Many teachers have expressed interest in attending June Academy [1008: 90]
    - Summer school conflicts with June Academy [1008: 90]
    - Science Professional Development days conflict [1008: 90]
  - Some teams have expressed interest in Train the Trainer sessions [1008: 90]
    - Asked principals to identify people who would benefit [1008: 90]
- Self-guided Training
  - Teachers were made aware of the online modules and videos
- School visits with Educational Consultant/Instructional Coach [1008: 96]

    - Some teachers have had classroom modeling sessions [1008: 96]
- ST Math/Educational Consultant Support
    - Teachers have contacted Educational Consultant for assistance [1008: 115, 117]

Achievements:

- Student Engagement
    - Students are very excited about the program and eager for ST Math time [1008: 58]
        - Students used the program at home in the evening, over winter break, and during snow days [1008: 60, 82]
    - Some students completed entire syllabus [1008: 88]
    - Unsure whether to move student to next grade because they don't want students to be multiple grades ahead [1008: 88]
- Teacher buy-in
    - ST Math is preferred over other programs [1008: 70, 88, 123]
    - ST Math was discussed at grade level meetings at least twice [1008: 66]
    - Teachers will have experience with the program and school will be fully prepared for year 2 [1008: 92]
- Parent Engagement
    - Information about how to access the program at home was sent to parents [1008: 60]
        - There were some issues with getting access on different devices [1008: 60]
        - Some teachers were hesitant to give full access because they were afraid students would finish too early [1008: 60]
    - Most building principals shared information about the program in newsletters [1008: 60]
    - JiJi Believer music video was posted on the website so the parents could watch [1008: 60]
- JiJi Culture
    - One class participated in the "JiJi Believer Challenge" [1008: 60]
    - School has posted pictures and stories about ST Math on Facebook and Twitter [1008: 110]
- Administration Engagement
    - Information about ST Math was presented at principals meeting [1008: 66]
- Testing

    - [1008] believes the structure of ST Math puzzles helped prepare students for PARCC [1008: 76, 78, 96]
        - Forces students to think through the process of answering questions [1008: 76, 96]
- Growth
    - STAR scores increased significantly for teachers who were implementing program with fidelity [1008: 84]
- Blended Learning
    - School is slowly building blended learning into curriculum [1008: 98]

Challenges:

- Training
    - Limited communication between building "champions"
    - Some teachers have scheduling conflicts with June Academy [1008: 90]
    - Teachers were using the program without training [1008: 52]
        - Didn't know about teacher mode or other features [1008: 52]
- Time
    - PARCC interrupted ST Math momentum [1008: 70]
        - Computer labs were unavailable [1008: 70]
    - Program was not fully implemented until October [1008: 84]
    - Hard to implement with competing initiatives [1008: 119]
- Technology
    - Technology issues at the beginning of the year have delayed distribution of Chromebooks into classrooms [1008: 72]
        - Classrooms have some iPads and computer stations [1008: 72, 74]

Recommendations:

- Training
    - Finding different ways for student and teachers to engage with the program [1008: 96]
- Blended Learning
    - Attempting to incorporate ST Math and other programs into a blended learning environment [1008: 96, 98, 104, 108]
- Data Reports
    - Encouraging principals to view and use data [1008: 94]

APPENDIX

Math Matters: Knowledge Capture Focus Group Reports (9)

Fairfield and Franklin Counties

Elementary Schools (All Districts)

Note: Focus Group Reports are coded to assure participant anonymity. For example, codes appear as a series of numbers and letters (1-9-MS-33) where the first number represents the county, the next number indicates the district, the letters refer to grade level (e.g., elementary school (ES); middle school (MS); and high school (HS); and K-12 (K-12-ALL), and the last number in the series signifies the school building.

Math Matters
FG 10 Bullet Point Report
[2-3-ES-64]

Focus Group Leader: Maria Green Cohen
Focus Group Note Taker: Kayla Galloway
Focus Group Participants: Elementary School Teachers Grades K-3 [n=5]

Introduction: Teachers in this district were trained through watching MIND Research Institute training modules (10-2-17). Module 1 was completed during group PD in August and modules 2-4 were completed at an additional PD in September (10-1-24). Teachers are responsible for completing the additional modules on their own time (10-2-26/28). Additional support has been provided by MIND Educational Consultants through school site visits and a data meeting (10-1-146). A 3rd grade teacher has taken on the lead role for ST Math in the building (10-1-132; 10-1-134; 10-1-136; 10-1-138). Students also have access to a program called Extra Math (10-2-76; 10-5-273; 10-4-343).

ST Math Usage:

- Establishing a Schedule
  - Most teachers are having students work on ST Math once a week during a block of time (10-5-34; 10-4-52; 10-3-60; 10-2-70; 10-1-79)
  - Students can choose to play ST Math games during their computer time during center time for 15-20 minutes (10-5-87; 10-1-88)
  - Some students are in computer lab on ST Math for 45-60 minutes once a week (10-5-34; 10-4-52; 10-3-62; 10-2-70)
  - Teacher has asked the computer teacher to have students work on ST Math during computer class (10-3-62)
- ST Math at School
  - Students have center computer time twice a week (10-5-46)
  - Some teachers use center time for fluency practice (10-1-79)
  - Some students can choose to play ST Math during support and extension time (10-4-52)
  - Some teachers are having students use ST Math during computer lab (10-5-34; 10-5-48; 10-4-52; 10-3-62)
- ST Math at Home
  - Teacher has opened up ST Math to play at home (10-5-93; 10-4-96)

    - Not assigning homework in ST Math (10-5-93)
    - Students have access to play the gray and the green at home (10-4-98; 10-4-100; 10-5-101)
- Incentives
    - Teacher has given students rewards for working on ST Math over school breaks (10-4-107)
    - Teacher uses sticker chart to motivate students' progress (10-3-291)
- Devices
    - Some teachers access a Chromebook cart once a week (10-4-52; 10-2-70; 10-1-79; 10-1-198; 10-4-200)
    - Teacher has eight centers in the classroom (10-5-40)

Achievements:

- Student Engagement
    - Student engagement is high (10-5-153; 10-1-182)
    - Students are gaining problem solving skills (10-5-151)
    - Students are excited when they solve ST Math puzzles (10-5-151)
    - Students ask daily to go to the computer lab for ST Math (10-5-283)
    - Students are motivated to persevere through difficult puzzles (10-4-374)
    - Students ask daily to get their progress tracked with the stickers provided by ST Math (10-3-291; 10-3-293)
    - Students are excited when they see ST Math on the daily schedule in their classrooms (10-2-282; 10-5-285)
    - The majority of the students choose to play ST Math over other math programs that are available to them (10-5-273; 10-2-274)
    - Younger students love to track their progress and are motivated to play ST Math games (10-3-287; 10-3-291)
    - Some students have written their passwords in their math journals without being prompted (10-2-318)
    - Some students are highly motivated by the competitive aspect of the program (10-4-297)
    - Teacher feels that ST Math breaks up monotony of pencil and paper math (10-4-154)
    - Some students are using paper and pencil and manipulatives while solving ST Math puzzles (10-4-341)
- Teacher Engagement

    - Teacher finds fluency works well during center time (10-5-335)
- Making Connections
    - Teacher has experienced a shorter time period needed for students to grasp the concept of elapsed time now that they are using ST Math (10-1-182; 10-1-184; 10-1-186; 10-4-187; 10-4-370)
    - Students are connecting ST Math to other classroom math activities (10-5-173)
    - Some students are developing their own math concepts (10-4-154)
    - Teacher is using data reports to see where students struggle (10-4-364)
- Moving Forward
    - School recently started technology committee (10-2-126)
    - Helping teachers become more comfortable with ST Math is an issues they plan to address (10-2-126)
    - Younger grades will be getting newer devices that will support ST Math in their classrooms (10-5-50)
- Opportunities for Communication
    - ST Math is discussed at Math Improvement Committee Meetings (10-1-132)
    - Committee meets monthly with representatives from each grade level (10-1-134)

Challenges:

- Training
    - Teachers unfamiliar with Teacher Resources on ST Math site (10-5-140)
    - Several did not know about availability of game mats (10-5-189; 10-2-190; 10-5-337)
    - Some teachers are unaware of math fluency feature (10-5-335; 10-2-336)
    - Few teachers know how to use teacher mode to work with students who are having trouble with ST Math puzzles (10-5-227; 10-2-228)
    - Teachers are not spending time looking at data reports (10-5-361; 10-5-363)
    - Teachers do not know how to use data reports (10-5-361/363)
- Access to Resources
    - Time
        - District PD and staff meetings have been greatly reduced (10-1-118; 10-5-119)

        - Teachers haven't had time to explore ST Math (10-1-236; 10-5-237)
        - Little time available to work with MIND staff (10-1-118; 10-5-119; 10-1-148)
        - Little time to discuss ST Math with others in the building (10-5-121; 10-5-125)
    - Devices
        - Access to two computer labs limited by large student body (10-5-34; 10-5-192)
        - Building has 55 classes spanning grades K-3 (10-5-326)
        - There are times when the computer lab is not available (10-5-48; 10-5-333)
        - Limited availability of technology for lower grades (10-5-50; 10-1-194)
        - Computers in classrooms too old to support ST Math (10-3-62)
- Passwords
    - Many students are spending their limited time on ST Math on password retraining (10-2-210; 10-2-212; 10-3-310; 10-5-326; 10-1-327)
    - Password issue most prevalent with younger grades (10-2-210; 10-3-306; 10-1-314)
    - Getting a copy of a student's password from MIND is very complicated and time consuming (10-1-316)
- Making Connections
    - Some teachers find it a challenge to have students transfer what they are doing in ST Math to paper and pencil (10-4-238; 10-4-240; 10-4-244)
    - Teachers not considering how to connect ST Math games to classroom activities (10-4-244; 10-4-246)
- Student Engagement
    - Some students complain about having to play ST Math (10-3-300; 10-3-302; 10-3-304)
    - Some teachers are getting postcards from JiJi but the students are not receptive to them (10-4-345)
- Technology Issues
    - Younger students not aware of alert screens and the need to raise their hands to get the teacher's attention (10-3-214; 10-3-218; 10-3-220)

Recommendations:

- Training
  - Teachers need help connecting ST Math to classroom instructions (10-4-238; 10-4-240; 10-4-244; 10-4-246)
  - Modeling classroom connections (10-4-244)
  - Staff should participate in Train the Trainer sessions at the [County ESC] this June (10-1-146; 10-1-148; 10-5-149; 10-4-234; 10-1-236; 10-5-237)
- Programming
  - Some teachers would like to have a numeric password or a printable version of the picture passwords (10-2-210; 10-1-314; 10-1-316)
  - Computer teacher cannot access student password retraining without teacher log-ins (10-5-326)
  - Teacher would like to get alerts when students pass a cone (10-1-356; 10-5-365)
  - Teacher suggested that students have a student version of teacher mode available when they have trouble solving puzzles (10-4-223; 10-4-225)
  - Students could play back the solution in a slower mode (10-4-234)
- Student Engagement
  - Teacher would like a way to recognize student achievements such as "passing a cone" (10-4-343; 10-1-354; 10-5-357)
  - Having students write down the pictures in their math journals has been helpful (10-2-318)
  - Teacher suggested printable certificates that are sent directly from the game to the printer when students pass a cone (10-4-343; 10-1-350; 10-1-352)
- Timing
  - Teachers need time to explore Teacher Resources on ST Math site (10-5-140)

Math Matters
FG 30 Bullet Point Report
[1-2-ES-12]

Focus Group Leader: Maria Green Cohen
Focus Group Note Taker: Kayla Galloway
Focus Group Participants: Elementary School Teachers Gr. K-4 [n=5]

Introduction: On site PD was available to the participants (30-3-132). Some of the participants have completed the webinars (30-5-125). An educational consultant came to the school and met with a group of teachers who were not able to attend the first webinars, and did a webinar with them after school (30-5-135).

ST Math Usage:

- Establishing a Schedule
  - One participant is a kindergarten teacher who uses ST Math twice a week for 30 minutes in a whole group setting (30-1-10)
    - One day the technology teacher comes in and facilitates, and the participant facilitates on the second day (30-1-10)
    - The other kindergarten classes do not use ST Math whole group. They use it in small group rotations (30-1-20)
  - One participant does ST Math once a week on Thursdays for an hour in a whole group setting (30-2-26)
  - One participant uses ST Math two to three days a week for 40 to 45 minutes (30-3-43)
  - One participant pulls in Chromebooks once a week for 45 minutes to an hour (30-4-49)
  - One participant uses ST Math twice a week for 40 to 45 minutes (30-5-59)
- ST Math at School
  - One participant will once in a while take a lesson and put it up on the Elmo or the Eno board (30-2-28)
  - One participant allows her students to get on ST Math if they finish a worksheet early (30-2-28)
  - Students are allowed to get on during inside recess (30-2-28)
  - Students are allowed to get on after their Daily Five is done (30-3-43)

  - One participant will do whole group lessons up on the Elmo for puzzles that many of her students are getting stuck on (30-4-49)
    - Strategy works well and removes all hurdles for most students (30-4-53)
  - One participant uses the game mats and prints out other resources from the ST Math site for her students (30-5-63)
  - Participants will have their students keep a whiteboard and marker at their desk to help them solve the puzzles (30-5-320)
  - One participant pulled in some ST Math lessons with the Eureka Math lessons (30-5-67)
    - Certain lessons work well together, but there are some that do not mesh with the curriculum because there are pieces missing from ST Math (30-5-69)
  - Technology teacher can decide if she wants to do ST Math with the students in the computer lab (30-4-98)
    - 4th grade does not usually do ST Math in the computer lab (30-5-100)
    - 2nd grade does E-Typing during technology class (30-4-98)
    - 1st grade has a half hour of technology, which for most of this year has just been strictly ST Math (30-4-49)
      - Recently it has been shifted out to something else
  - One participant opened up the optional objectives for her students who reached 100 percent syllabus progress because they were struggling on the challenges (30-5-22)
  - One participant uses the sticker chart tracker in her classroom (30-5-244)
- ST Math at Home
  - Participants' students are allowed to play the green at home (30-2-106)
  - Only a few students in each class have played ST Math at home (30-5-103)
- Devices
  - In one participants classroom each student has their own devices to work on (30-3-43)
  - Chromebooks are available (30-4-76)
  - Clamshells, which are a tablet with a keyboard, are available this year (30-5-92)
  - Access to schedule the computer lab as needed (30-4-94)
    - Contains 30 computers

- Incentives
    - One participant gives her students reward tickets for each one percent of syllabus progress they complete a week (30-5-238)
        - There has been several times since she started this that each student received a ticket
    - The school held a JiJi pep rally (30-1-245)
        - Students who received 100 and 99 percent syllabus progress received awards

Achievements:

- Student Engagement
    - Students like to be able to explain the game to their teachers (30-5-158)
    - Students have a lot of enthusiasm for ST Math that teachers hope is transferring over to math in general (30-2-170)
    - Students were forced to get over the hurdle that they are not going to be right every time and now they love it (30-1-200)
    - One participant showed her students the free apps through ST Math, such as Big Seed, and many of her students put them on the personal devices at home (30-5-211)
    - Students motivated to reach 100 percent syllabus progress (30-3-240)
    - Students get on their teacher to update the sticker chart tracker because they like to track their progress, and they have set goals for themselves (30-5-242)
    - Students enjoyed the JiJi pep rally (30-4-252)
    - One participant's students will sing the song from their JiJi Believer video in the schools talent show (30-5-272)
    - Students are sharing with each other their strategies and manipulatives they used to solve the puzzles (30-5-313)
    - Students began using the crayons on their desks as manipulatives to help them count while on ST Math (30-1-319)
- Teacher Engagement
    - Participants like the test drive mode to go through puzzles slowly and for a whole group brainstorm (30-4-55)
    - One participant's class made a JiJi Believer video (30-5-63)
    - One participant loves the problem solving aspect of ST Math (30-4-152)
        - Likes that there aren't any directions

        - Students being forced to use their abilities
        - Forces students to get over the hurdle of their not going to be right every time (30-1-200)
    - One participant likes that she doesn't know how to do the games and therefore can not just give the students the answer because it forces the kids to work through the problem (30-1-155)
    - One participant is thankful for ST Math because she teaches a tested area that just received a new curriculum this year. She wasn't able to cover all the required curriculum before testing, but she was so glad because the kids were exposed to the concepts via ST Math (30-5-171)
    - One teacher loves how the program approaches time (30-4-301)
        - Loved the way her students advance through scaffolding
        - Participant wishes that her students would have done the ST Math puzzles before she started teaching time because it would have been much easier and they would be right on track
    - One participant says she loves ST Math, and she feels blessed that the school has the license for five years through the grant (30-4-337)
- Opportunities for Communication
    - One participant has the opportunity to talk to the other team member who teachers the same grade level every now and then (30-5-117)
    - One participant is able to discuss ST Math with the Special Education teacher who is in her classroom for half the day (30-5-117)
- Making Connections
    - One participant is seeing that her students are able to make the connections between the puzzles and in class instruction (30-5-150)
- Moving Forward
    - Next year one participant plans on using ST Math more in her lessons (30-5-67)
        - She went through and did a curriculum map for next year with Eureka Math and ST Math so the two could be meshed
    - One participant really wants to be able to incorporate the program more within her curriculum next year once she is more familiar and understands what it has available (30-4-118)
        - Tie it into Eureka Math (30-4-120)

- One participant thinks that moving forward the self-guided courses will be helpful in filling the gaps in teachers' knowledge of the program (30-5-123)
  - Seven courses
  - Fluency course available
- Participants are working on how to align ST Math with their curriculum moving forward (30-4-286)
  - Next year participants plan on reordering ST Math concepts to match their own curriculum in the beginning on the year (30-5-287)

Challenges:

- Training
  - Not all teachers were able to receive training via the webinars
    - Problem was the times that the webinars were available didn't meet with all the participants schedules (30-5-133)
  - One participant didn't know about Teacher Mode until later in the year (30-5-302)
    - She would have preferred the Teacher Mode feature over the test drive during whole group lessons because of the playback and pause features
- Access to Resources
  - Lack of Time
    - Participants find it hard to get the suggested 90 minutes of usage per week (30-2-179)
      - It is hard to do with all the other math curriculum that must be covered (30-2-181)
      - It has been hard recently because participants' classes time has gone down because of testing (30-5-182)
  - Access to Devices
    - The school will not have the clamshells next year because they are getting sent to the middle school (30-5-92)
      - Participants will only have access to Chromebooks
    - Lately it has been hard to schedule time for the computer lab (30-4-95)
    - Participants didn't assign ST Math as homework because some students do not have access to devices or the Internet at home (30-5-111)

- Student Engagement
  - Students get frustrated easily and it is hard for them to move on (30-4-193)
    - Teachers find it challenging to find new ways to approach it to get the students thinking in a different direction rather than just saying the answer (30-4-193)
  - Many students are complaining because that they can only play the gray at home (30-5-216)
    - The students don't do it at home because they've already played the games (30-1-217)
    - Teachers are worried if they open up all the games at home some students will finish too soon (30-1-217)
- Parent Engagement
  - Participants did not assign ST Math as homework because they worried about parents assisting too much at home (30-4-112)
- Competing Initiatives
  - Two of the participants also use Eureka Math in the classroom (30-5-67)
  - The school has many different curriculums and programs being implemented this year that the participants have to learn (30-4-118)
- Opportunities for Communication
  - Participants do not have the opportunity to talk about ST Math during grade level meetings or staff meetings (30-5-115)
- Technology Issues
  - Chromebooks are available but a lot of them do not work (30-2-77)
    - Students keep getting kicked off (30-2-77)
    - Chromebook issues are getting more prevalent (30-2-82)
- Programing
  - Participants have found holes in ST Math, especially compared to the curriculum of Eureka Math (30-5-182)
    - One participant had to go up to 5th grade content to use some of their games in order to get it to meet a few of the 4th grade standards that they were working on to go with their own curriculum (30-5-184)
    - Participants feel Eureka Math goes a little bit deeper; deeper thinking (30-5-189)
    - One participant would have to provide a worksheet with ST Math that goes with the word problem standards (30-5-189)

        - When doing her curriculum map one participant realized that there wasn't a lot on ST Math that dealt with comparing fractions and decimals, which is a piece required for 4th grade (30-5-191)

Recommendations:

- Programming
    - One participant wishes there were more game mats available for 4th grade (30-5-307)
- Student Engagement
    - Hold the JiJi pep rally at the end of the school year so more students will have the opportunity to receive syllabus progress rewards (30-5-255)
        - Have JiJi visit early in the school year to hand out awards to those students who earned high syllabus progress to motivate the other students (30-4-258)
    - Participants would like a list of suggestions of the manipulatives to use for each puzzle (30-5-309)
        - Connecting the resources

Math Matters
FG 40 Bullet Point Report
[2-5-ES-88]

Focus Group Leader: Maria Green Cohen
Focus Group Note Taker: Kayla Galloway
Focus Group Participants: Elementary Teachers K-6 [n=7]

Introduction: Five participants attended a half-day training session in October (40-2-45). One participant attended a half-day training session in December (40-1-44). The other participant did not receive training (40-6-62). Two of the participants who went to the training in October became the building math liaisons (40-3-91), and came back and did a tutorial for the other teachers in the building after school (40-5-90). A few of the participants watched some of the online training videos (40-7-121).

ST Math Usage:

- Establishing a Schedule
  - One participant uses ST Math for 20 minutes three days a week (40-2-168)
  - One participant used ST Math as a station option within her 90 minute math block (40-3-190)
    - Participant transitioned to using ST Math for 20 to 30 minutes at the end of each class by January
  - One participant uses ST Math in rotations for 15 minutes daily (40-4-205)
  - One participant uses ST Math once a week for 20 to 30 minutes after her students finish a task (40-26-232)
- ST Math at School
  - One participant watches the online training videos to help stuck students (40-7-121)
  - One participant watched the online training videos to help her add a new student (40-3-125)
  - IEP teacher uses ST Math as a supplemental tool (40-1-140), and for independent time (40-1-150)
    - Explicitly shows her students how JiJi can get across (40-1-140)
    - Works one on one at the computer with her students (40-1-142)

  - One participant does it in a whole group setting with students working independently (40-2-162)
  - One participant plans on using the Fluency feature next year (40-2-214)
  - One participant began using ST Math as a review of skills (40-6-234)
  - One participant noticed her students were struggling with ratios and moved it in the curriculum on ST Math and it really helped (40-6-234)
  - Participant uses ST Math as a support to her curriculum (40-6-267) (40-1-411)
  - One participant used ST Math to review curriculum from the fall for the PARCC testing (40-7-330)
  - One participant allows students to get on ST Math after they finish their digits lesson (40-2-396)
  - 6th grade students helped primary students get through password training (40-5-499)
- ST Math at Home
  - One participant assigned ST Math as homework early on (40-7-273)
    - Students were assigned an hour of ST Math time to be completed in seven days (40-7-273)
    - New material (40-7-279)
    - Purpose was to get the class up in running in less time (40-7-290)
  - One participant opened up ST Math at home so the students could dictate their own pace (40-2-396)
    - Students that took longer to complete a lesson could get caught up at home
- Devices
  - The Early Proficiency Plan (EPP) teacher has computers in his room for all his students to independently work on (40-2-174)
  - One participant has five computers in her classroom (40-4-205)
  - General ed. teachers share Chromebooks and laptops (40-6-232)
  - 5th grade has 62 kids with only 30 devices that all classroom share (40-7-271)
  - The school has a computer loaner program where the students can use the devices at home (40-7-401)

  - Teachers can check out the designated library Chromebook cart if it is not in used (40-6-517)
  - Kindergarten and 1st grade do not have a cart like the upper grades (40-4-518)
    - They have five Chromebooks in each classroom
- Incentives
  - Three of the participants used the sticker chart tracker in their classrooms (40-7-187)
  - 4th graders received a pizza party if they earned 100 percent syllabus progress by May 1st (40-3-190)
    - 25 students earned the pizza party (40-3-192)
  - One participant gave the first three kids in her class who earned 100 percent syllabus progress a 15 dollar gift card of their choice (40-7-300)
    - Within two weeks two students earned 100 percent syllabus progress (40-7-302)
    - Students earned the majority of their syllabus progress at home (40-7-304)
    - Participant was excited because one of the students is an ESL student (40-7-306)

Achievements:

- Student Engagement
  - All the 4th grade students are at least at 90 percent syllabus progress (40-2-177)
  - Students love ST Math, are motivated, and have reached 100 percent (40-3-199)
    - These students have benefited from the beginning of the year to what they knew (40-3-199)
  - Anything with technology is a big motivator for students (40-1-406)
  - Early Proficiency Plan (EPP) students who had reached 100 percent syllabus progress were given the option to continue with the ST Math challenges or switch to First in Math, and all but a few students chose ST Math challenges (40-2-482)
  - Kindergarten students love ST Math (40-5-538)
  - ST Math is always the majority of the students' choices during stations (40-3-540)
  - Students loved when JiJi visited the school (40-4-556)
- Teacher Engagement

    - Every grade level in the building is using ST Math (40-3-98)
- Opportunities for Communication
    - Informal discussions about ST Math take place whenever anyone has any questions or strategies to share (40-3-387)
    - Participant group is close and feels comfortable going to their fellow colleagues (40-3-387)
    - Many teachers in the building go to the Early Proficiency Plan (EPP) teacher with questions because his students finished first (40-3-389)
- Moving Forward
    - Participants want to set up training for next year to help with year two (40-5-114)
        - Specifically, how to read and use the data reports
    - Participants would like to have parent curriculum nights moving forward (40-2-575)
    - One participant would like to use ST Math as an intro to a topic next year (40-2-584)
        - In a whole group setting up on the smart board, and put it in Teacher Mode

Challenges:

- Training
    - Participants wanted a follow up site visit from an Educational Consultant, but it did not occur (40-5-102)
    - One participant would like more training on how to help stuck students who are unmotivated (40-3-201)
    - One participant has not received formal training, and would like more training so she can be able to maneuver through it (40-4-207)
        - Participant doesn't know how to recognize that her students are hurdled
    - One participant was not familiar with the Fluency feature (40-6-226)
    - One participant wants to learn how to move the curriculum (40-3-420)
        - To know if it is better as a pre-teaching tool or after the lesson has been taught
        - To learn how to move the curriculum to make sense for each kid; individualize
- Access to Resources
    - Lack of Time

        - If Kindergarten or 1st grade were to borrow the library's Chromebook cart the teacher would have to login with a school login to all 20 devices (40-6-532)
            - Time consuming
    - Access to Devices
        - 6th grade has a heavy focus on Google Classroom, and writing their essays on Google Docs, and other competing initiatives (40-6-232)
            - 6th grade really shares devices, so it is not feasible for students to be on ST Math everyday
        - The building no longer has a computer lab (40-2-270)
- Student Engagement
    - Students who are stuck and hurdled do not want to get on ST Math again (40-3-199)
    - In one of the participants' class over 1/4th of the class does not like ST Math (40-7-294)
    - Students with the biggest bubbles are usually the participants lower kids (40-7-310)
        - Participants hoped that ST Math would have helped these students more (40-7-306)
    - One of the biggest frustrations students have with the games is how long the animation takes once they solved the problem (40-6-434)
        - Huge frustration for higher level kids
- Teacher Engagement
    - A struggle for one of the participants has been not overly helping students when she sees them struggling. She realizes that a productive struggle is necessary (40-3-414)
- Making Connections
    - Participants notice it is hard for their students to realize they are working on certain concept while doing the puzzles (40-6-236)
        - Have to be explicitly shown (40-6-240)
- Competing Initiatives
    - One teacher uses MobyMax, First and Math, and two other reading programs (40-4-207)
        - Hard for students to shift back from one to another
    - 6th grade has another math program called Digits that is the majority of the participants content resources (40-6-232)

    - Heavy emphasis on Google Classroom which requires devices (40-6-232)
    - One teacher pulled back the reigns on ST Math and really focused on MobyMax (40-7-298)
        - Feels that MobyMax is more explicit and really supports the curriculum
        - Found MobyMax to be more effective
- Parent Engagement
    - One participant had an ESL student really pick up his syllabus progress in a short amount of time, and when she asked the student about it he said his dad helped him (40-3-370)
- Technology Issues
    - Technical issues with the homework feature (40-3-483)
        - Students would log in at home, but could not advance
        - Parents would email that their student could get on at home, but it would not be the same level that they were on when they were at school
- Programming
    - Students are memorizing some of the puzzles because on some of the games it gives them the same problem when they have to go back (40-6-257)
    - The bubbles never seem to reset so the participants do not know when the issue has been resolved (40-2-311)
- Passwords
    - Biggest challenge for primary students was getting successfully through password training (40-4-502)

Recommendations:

- Programming
    - The bubbles should refresh at least once a week (40-2-317)
    - Participants want the program to change based on age level (40-6-434)
        - Animation takes to long and it is "killing the kids" (40-2-435)
        - There needs to be a boost or power up button where you could speed up the animation (40-2-444)
        - Classroom management standpoint (40-2-447)
            - Students no longer engaged in the animation and begin chatting and looking at their neighbor's screen (40-2-449)

    - Students could have control over it (40-6-454)
    - There could be a couple different speeds (40-2-457)
    - Computer program could monitor how fast a student is successfully completing a puzzle and could automatically speed up or slow down (40-2-477)
- Participants would like for primary students to learn their passwords all at once because they could not get on ST Math at home until much later in the school year (40-5-511)

Math Matters
FG 60 Bullet Point Report
[2-4-ES-ALL]

Focus Group Leader: Maria Green Cohen
Focus Group Note Taker: Lisa Beiswenger
Focus Group Participants: Elementary School Teachers Grades K-2 [n=4] and Special Education Teacher Grades K-5 [n=1]

Introduction: The teachers who were trained received their training between two half days in September (60-1-13) and others received additional training after winter break (60-2/7-109; 60-7-116; 60-2-201). Each grade level sent a representative to the training, and they would share out with others in their buildings the program basics during planning periods (60-5-19). The district offered a professional development day where teachers could ask the Educational Consultant questions about ST Math (60-7-40; 60-7-44; 60-7-101). The Educational Consultant worked with some teachers in their classrooms to ensure proper use (60-2-102). Some of the trained teachers offered before/after school sessions to help train colleagues (60-7-66; 60-7-83). ELL and Special Education teachers were expected to use ST Math in the first year (60-5-88; 60-4-92). Teachers in this focus group use the program as a whole class activity and station rotations (60-4-146). Teacher Mode was introduced through a video at the second training (60-2-201; 60-7-204). Educational Consultant sent out materials about accessing ST Math over the summer (60-7-403/405).

ST Math Usage:

- Establishing a Schedule
  - Some teachers have their students on ST Math everyday (60-7-142; 60-4-144)
  - Teacher always signs up for iPad cart two days a week during a certain time (60-1-291)
- ST Math at School
  - ST Math is used as a center activity (60-7-148)
  - Teacher put students who completed the Kindergarten level into the 1st grade curriculum by making a separate class with the help of trained math coach (60-4-154; 60-4-160)
  - Teacher instructed not to use ST math as a station because the students needed more support (60-2-182)

    - Teachers checks out iPads or laptops for whole group work for a hour once a week (60-2-181; 60-2-183; 60-7-184)
    - Students needed more support with the program at the beginning but grew more independent (60-2-185)
    - Students used ST Math twice a week in the computer lab for 30-45 minutes as a math block (60-1-189/191)
    - Teacher felt students should use ST Math in addition to a daily lesson (60-5-194)
- ST Math at Home
    - Teacher encourages students to play at home (60-4-294)
    - Teacher assigns ST Math homework (60-4-296)
    - Homework was not opened up until January (60-7-302/304; 60-4-303)
    - Another teacher did not assign homework but had students play the green (60-2-336)
    - Students can play ST Math over the summer (60-7-399)
- Incentives
    - Teacher motivated students falling behind by offering choice of prize to every student reaching 100% (60-4-150; 60-4-154)
- Devices
    - Principal placed iPad cart outside of Kindergarten classrooms for the teachers to share at different times of the day (60-4-273/275)
    - Each grade level has 1-2 full carts of 15 iPads (60-7-276; 60-4-275)
    - Sign out system for devices (60-5-287)

Achievements:

- Student Engagement
    - Students beg to play ST Math (60-4-144)
    - Teacher places students by grade level based on their ability to avoid student frustration (60-7-148)
    - The wordless program does not damper student confidence with phrases like "Oops" or "Try Again" (60-7-148)
    - Students show teachers their progress percentages on the screen (60-4-177; 60-4-179)
    - Students are excited about playing ST Math as a homework assignment and ask if the teacher saw their progress the next day (60-4-296)
    - Students are motivated by ST Math (60-1-439)

  - ST Math program is engaging for students and they play almost every day (60-4-451)
  - Progress post cards are good motivators for the students (60-4-455; 60-2-458; 60-7-460)
  - Students play fact fluency for fun (60-1-550)
- Teacher Engagement
  - One building's Math Coach gathered teachers to show them the program (60-1-50)
  - Huge benefit observed in teachers who attended training (60-2-52)
  - Educational Consultant helped teacher understand how to use math mats and fact fluency during classroom visit (60-7-105)
  - Viewed online modules to troubleshoot problems before reaching out to Educational Consultant (60-7-124)
  - Teacher is aware they can create up to four different classes to place students at appropriate levels (60-7-165)
  - Teacher had a opportunity to become familiar with the program by watching students play in the computer lab sessions (60-1-189)
  - ST Math hotline helpful resource (60-1-497)
- Opportunities for Communication
  - Math coach would work with the Educational Consultant to solve the issues (60-2-52)
  - Educational Consultant provided help to students during classroom visit (60-2-104)
  - ELL teacher was trained and was helpful for other teachers in the building (60-4-133)
  - ELL teacher brought another teachers' class into her own to help students and teacher learn about ST Math (60-4-137)
  - One teacher allowed their older students to help other classes get set up in ST Math (60-7-138)
  - Communication opened up when teachers were shown Teacher Mode at training (60-1-208)
  - School has grade level 'data team' meetings 3-4 times a year where ST Math has been discussed (60-7-211/213/215)
  - Fellow grade level teachers approached trained colleague for assistance on ST Math (60-2-219)
  - Trained teacher received a lot of phone calls from other teachers in the building with questions about ST Math (60-7-220)

        - Other teachers will inconveniently ask the trained teacher to come down to their rooms to help with ST Math when she is in the middle of a lesson with her classroom (60-7-226)
    - Teacher engaging colleagues to brainstorm on overcoming problem of access to ST Math for students working with multiple teachers (60-4-361/363)
- Making Connections
    - Noticeable skill increase in students (60-7-148)
    - Teacher Mode has great visuals for students (60-1-206)
    - ST Math helped students who struggle with math (60-4-414; 60-2-437)
    - ST Math helped bridge math gap for ELL student (60-4-416/418)
    - ST Math aligns well with common core content (60-4-451/453)
- Parent Engagement
    - Email and parent letters sent home from resource site for ST Math (60-4-480)
    - Teachers showed parents ST Math program at November conferences (60-7-482; 60-5-486)
    - Interpreter sat in on parent-teacher conferences with families of ELL students to help talk the family through how to access ST Math at home in their native language (60-7-484)
    - Some parents had already helped their child log onto ST Math from home before talking with the teacher about it at conferences (60-5-486)

Challenges:

- Training
    - Grade level representative only showed colleagues how to set up class list and they were on their own to learn the program (60-5-21)
    - The class roster was set up for the teachers who were invited and attended the training (60-1-50)
    - Some buildings Math Coaches were not trained (60-7-57; 60-4-58)
    - Some of the teachers who were expected to work others were not helpful (60-4-60)
    - Teacher did not train on how to enter new students into roster (60-5-84; 60-5-90)
    - Teacher not aware they can create multiple classes to place students at more appropriate levels (60-2-167)
- Teacher Engagement

  - One teacher was not signed into program until March (60-7-66)
  - Pressure on Special Education teacher to get started on program without receiving training (60-4-92; 60-4-94)
  - Students and teacher could not solve final challenge at end of Kindergarten level (60-4-163)
  - Teacher struggled with using ST Math daily because they wanted to make sure new concepts are introduced (60-5-194)
  - Teacher feels like ST Math is too independent and a hands-on teaching method is more effective (60-5-194)
  - Colleagues reaching out to trained teacher for ST Math help did not receive assistance because trained teacher was busy with students (60-7-224/226)
- Student Engagement
  - Teacher was never trained on how to roster new student leaving the new student unable to participate in ST Math class activities (60-5-86)
  - Some students advanced quickly through program and others did not make the same progress (60-4-150)
  - Students could not beat final challenge at the end of the Kindergarten level (60-4-163)
  - Students could not work at own pace because teacher cannot assign individual students homework assignments (60-2-336/338)
  - Where student completed grade and challenge levels Educational Consultant would not put student at higher level for additional access over the summer (60-7-599/603)
  - Students will replay completed levels because they don't want to move onto something more challenging (60-5-611)
- Access to Resources
  - Devices
    - Teacher only has a handful of computers available in their room and does not have access to a device cart (60-7-148)
    - The biggest challenge is the availability of technology (60-2-266/268; 60-5-269)
    - Not enough devices available to play ST Math regularly (60-5-272)
    - Special Ed staff does not have iPad carts available for use (60-7-278)
    - Older grades have priority access to devices (60-4-279; 60-2-284)

        - With one cart for every grade level, each teacher only gets the cart once a week (60-5-285)
    - Materials
        - Several teachers did not receive manuals (60-4-130; 60-5-132/377)
        - Teachers selected to attend the grade level meetings were the only ones to receive sticker progress chart (60-5-374; 60-4-375)
- Technology Issues
    - Intervention students cannot be on two different class lists for both of their teachers to be able to view their progress and data reports (60-7-169; 60-4-170)
    - Teacher has to uninstall and re-download application to get access when experiencing difficulties logging in on iPads (60-7-226/232)
    - Teachers were locked out of program for a couple weeks and only had three iPads with ST Math access (60-5-239)
    - Levels would freeze up on iPad (60-5-247; 60-7-250; 60-1-251)
    - iPads would not save student progress (60-4-248)
    - District's servers could not handle the number of students on ST Math (60-7-255/498)
    - When students do not log out of their parents devices at home the minutes continue to be logged (60-4-356)
    - Teacher had a difficult time helping the students figure out the level (60-5-426)
    - Students have difficulty using manipulatives (60-5-433; 60-2-437)
    - Teacher regrets messing with the curriculum order (60-4-506)
- Passwords
    - Teacher did not realize kindergarten students cannot use ST Math at home until they learn their 13 character password (60-4-304/318)
    - Intentional password sharing among students (60-7-347/350/354)
    - Accidental password sharing when students were not fully logged out and another student picked up the device (60-5-355)
    - Students cannot remember their passwords (60-7-465; 60-5-466/468)
    - ELL students have difficulty remembering their passwords (60-7-467)
    - Students retrained on their passwords and still could not remember them (60-5-470)

    - Students will enter the correct password and the program will glitch and think it is incorrect (60-2-476)
    - Students want to choose pictures for their passwords (60-7-477)
- Alternative Math Programs
    - Students do not have ability to compete or play with other students like they can in Sum Dog (60-4-368)
- Making Connections
    - Students who do not reach 100% in the program by the end of the year will miss a chunk of what they need to know for the next grade level of the program (60-2-395/397)
    - ST Math did not help students without foundational basics (60-1-415)
    - Pie monster activity difficult for struggling students (60-1-419/427/429)
    - Beginning of grade level too difficult for several students and they need to be able to move back further (60-1-590)

Recommendations

- Training
    - Teachers who are visual learners need someone to sit down and walk them through the program (60-7-126)
    - Offer a lesson to the entire district faculty on how to teach a lesson using Teacher Mode (60-7-209)
    - Teachers need more time to explore the teacher side of the program (60-4-586)
- Technology
    - Program operates more efficiently on desktop (60-1-243; 60-2-244)
- Programming
    - Ability to assign individualized homework assignments for differentiated learning (60-1-340)
    - Pause button on program so the teacher can stop students to work with them (60-5-357)
    - Time and money are at the end of a level and they should be played earlier (60-1-514; 60-4-517)
    - Teachers should have the ability to create differentiated class lists (60-7-595)
    - Multiple teachers should be able to access data for students (60-7-595)

Math Matters
FG 70 Bullet Point Report
[2-4-ES-ALL]

Focus Group Leader: Monica Hunter
Focus Group Note Taker: Kayla Galloway
Focus Group Participants: Elementary School Teachers K-5 [n=2]

Introduction: In September the district invited all the special education and gifted teachers, a primary and an intermediate teacher, and the Match Coach from each building to a training, which was followed up by a second training in October (70-3-87).
One participant was her building's K-5 special education teacher representative (70-1-26), and the other participant was her building's primary teacher representative (70-3-34). The Special Education teacher first heard about ST Math when she was invited to the training (70-1-26), and the other participant first heard about it from her Math Coach last summer because she was really excited about it (70-3-36). Both participants went back to their schools after attending both training sessions to train their colleagues in their buildings (70-3-97). A train-the-trainer model organically developed within their respective schools. One participant had a follow up onsite visit with an education consultant to go over the data reports on a bigger scale and looked at the school's syllabus progress by grade level (70-1-164). The district held two [District] University Days in November and February where ST Math was discussed (70-3-217).

ST Math Usage:

- ST Math at School
    - Used as math stations while the teacher is pulling small groups (70-3-127)
        - Rotate students (70-3-135)
    - One of the participants receives all the struggling students and students with ST Math questions from other teachers because she is the most trained on the program (70-1-285)
        - Fellow colleagues are appreciative
    - The intervention teacher will sometimes put ST Math up on the Elmo (70-1-448)
- ST Math at Home

- Participants are finding that parents are playing the games at home rather than their children (70-1-303)
- Participants like that the students can go home and work on ST Math (70-3-319)
- Is an option for math homework (70-3-321)
- Only content open is what has been taught in class (70-3-321)
  - Participant doesn't want her students working ahead of what they've learned in class because a couple students would finish to early (70-3-321)
- Intervention teacher does not assign homework because she doesn't want to mess with other teachers classrooms (70-1-325)

- Devices
  - Shared laptop carts (70-3-139)

Achievements:

- Student Engagement
  - Participants like how ST Math works well for primary school students
    - It has been a constant battle to find a program that students love and can do (80-3-36)
  - Participants feel ST Math works for both general education and special education (70-1-42)
    - It has been difficult in the past to find a program that is useful for both student populations
  - Special education students who typically have trouble with memorization have successfully memorized their passwords (70-1-76)
  - Some kids love ST Math (70-1-244)
  - Students love passing the levels (70-1-262)
    - Rewarding (70-3-260)
    - Students feel proud of themselves (70-3-260)
    - Students like the post test (70-1-268)
  - ST Math is a program that the students can do at their "own level" (70-3-317)
  - One participant uses ST Math as one of a number of options for homework and it is by far the option her students chose the most (70-3-323)
- Students Growth
  - Problem solving skills are being gained (70-3-319)

    - Using all the math processes to help them learn a content they need to learn (70-3-319)
- Teacher Engagement
    - One participant's kindergarten intervention program educator thinks the program is wonderful and perfect for a math center when she is pulling small groups (70-1-70)
        - Successful because students do not have to read anything (70-1-72)
    - Teachers love the program because it lends it self to peer to peer sharing and talking about math (70-1-420)
    - Participants love that students can be independent (70-1-454)
- Opportunities for Communication
    - One participant has always received feedback via email from the MIND educational consultant (70-3-180)
    - [3004] has been wonderful to communicate with (70-3-185)
    - The teachers in the district have been communicating, trying to work, and help each other as they go (70-3-185)
- Parent Engagement
    - Parents call the participants when they can't figure out a level on ST Math at home (70-1-305)
- Moving Forward
    - One participant plans on switching to whole group ST Math usage in the next couple years when her school gets more devices (70-3-137)
    - Number of iPads will be increasing over the next couple years (70-3-151)
    - District Math Coaches have been holding meetings to try to figure out how ST Math relates to their district's math framework (70-1-362)
        - Purpose is to reorganize the curriculum (70-1-364)

Challenges:

- Training
    - Limited communication and training due to building Math Coach health issues (70-1-42)
        - All the information about ST Math training was going to the Math Coach and was not getting transferred to the building administrators and the teachers (70-1-46)

        - When the teachers heard from other buildings about the available PD for ST Math the participant and her colleague organized the half-day training for the primary teachers (70-1-46)
        - Intermediate did not get pulled because it was during the big testing season, and because kindergarten and 3rd grade had not yet implemented it (70-1-48)
        - The training did not occur until February, and most of the teachers had not been on ST Math (70-1-50)
        - Still have not had training for 4th and 5th grade (70-1-66)
    - Teachers in the district really want formal ST Math training (70-1-114)
    - Participants do not feel completely comfortable interpreting the data reports (70-1-121)
    - One participant feels like there is so much more to the program that she is unaware of and not taking advantage of (70-3-192)
    - It has been difficult for another intervention teacher to navigate between the different classrooms on ST Math because she is not technologically savvy (70-1-327)
    - Participants would like more training on how to use ST Math in a whole group setting (70-1-404)
    - At one of the participants' school a regular education teacher rearranged his curriculum and all of his students' progress was lost because he did not know how to do it properly due to the fact that he had not received any training at the time (70-1-404)
- Access to Resources
    - Lack of Time
        - One participant hasn't been able to facilitate while the students are on ST Math stations because she is busy pulling small groups (70-3-127)
    - Materials
        - Only the teachers who attended the training in the fall received manual (70-3-105)
            - Teachers who went to the initial training sessions in the fall have printed out copies of pages that their fellow colleagues might find helpful (70-3-105)
        - Many teachers want and have asked for a physical copy of the manual (70-1-114)
    - Access to Devices

        - Both participants' buildings use shared laptop and iPad carts for every two grades that need to be reserved (70-3-139)
            - Difficult to access because so many classes want them (70-1-142)
- Student Engagement
    - Some kids are bored with ST Math (70-1-244)
        - Part of the boredom stems from challenging levels that the students don't know how to get past (70-1-246)
        - Students shut down (70-1-248)
    - One participant has a couple of students who have not figured out how to take the post quizzes, and do not know that it counts (70-1-275)
    - Teachers have had to open up all the homework for their gifted students because they needed extra enrichment (70-1-341)
        - Some of the kids completed all the levels and challenges by December, and had to keep repeating the same puzzles (70-1-343)
            - Parents called in complaining that there wasn't anywhere for their students to go to get extra enrichment
- Competing Initiatives
    - At one of the participants' school the upper levels (3rd, 4th, and 5th grade) use a math program called Manga High (70-1-252)
        - More engaging, fast pace, and like a video game
        - Used for a couple years and really like it
        - Students who like Manga High don't like ST Math, and students who like ST Math don't like Manga High
- Teacher Buy-in
    - Some teachers are negative towards the program because they have not received the proper training (70-1-114)
    - Teachers are frustrated because they can not see the homework their students completed; no record (70-1-116)
        - Teachers can only see how many minutes their students have used it at home, but cant see how they did on the homework
        - Teachers have parents calling on asking how their students did
- Technology Issues

    - The puzzles function differently and features are different on the iPads (70-1-429)
- Passwords
    - In one participant's building some kindergarten classes have not started because it is so hard to get kindergarten students successfully through password training (70-1-70)
    - Biggest hurdle was getting all the teachers set up and students successfully through password training (70-3-105)
- Communication
    - Participants have not been informed about the June Academies (70-1-202)

Recommendations:

- Programming
    - Adding a feature that allows you to replay how a student answered a question (70-1-123)
        - Allows the teacher to see specifically where the students struggled
    - Participants suggest there should be a prescreen feature that could place the students on the appropriate level (70-1-337)
- Training
    - Participants hope they do another one in the summer, especially for new teachers and teachers who didn't get to use ST Math this year and would like to know more about it (70-1-222)

Math Matters
FG 80 Bullet Point Report
[2-4-ES-All]

Focus Group Leader: Monica Hunter
Focus Group Note Taker: Kayla Galloway
Focus Group Participants: Elementary School Teachers Gr. 3rd-4th [n=4]

Introduction: One of the participants learned about ST Math when she was asked by her administrator to be the buildings primary school representative at the fall training (80-2-115). She accepted, and has been to every training that has been offered thus far (80-2-103). Three of the participants learned about ST Math from fellow colleagues in their buildings who went to the training in the fall. One of the participants is completely self-taught (80-1-89), and in April the participants' Math Coach held a half-day training for 3rd grade, which she attended (80-1-427). One colleague came back from the fall training and briefly went through how to log on to ST Math with the teachers in the building, and handed out copies of s few pages of the manual that she thought would be helpful (80-4-117). The participant did research on the website on her own time, and then went to a half day training with an educational consultant in January (80-4-123). One of the participants was taught how to get set up by her building Math Coach, and did not receive formal training until February when an educational consultant came to her building (80-5-137). One participant gave the Focus Group leader notes that her students wrote about ST Math. The students were excited for their voices to be heard (80-4-684).

ST Math Usage:

- Establishing a Schedule
- ST Math at School
    - One participant has her students use manipulatives while using ST Math (80-4-212)
    - ST Math is supplemental tool (80-4-299)
- ST Math at Home
    - One participant assigns ST Math for homework (80-5-355)
    - The other three participants have ST Math opened as an option (80-4-360)
    - Some students are on at home for an hour because they just love it, but others just don't do it when it is assigned as homework (80-5-412)

- Devices
    - One participant's school is increasing the number of iPads next year (80-2-439)
    - One participant's school has a computer lab that is available (80-2-439)
        - Not typically signed out because the room is crowded and it becomes very noisy

Achievements:

- Student Engagement
    - Some students love ST Math (80-4-370)
    - One participant's students started using dry erase boards on their own to help them solve the puzzles (80-1-232)
    - One participant feels it is beneficial that her students know she is monitoring the data reports because it makes them pay more attention and be accountable (80-2-327)
- Student Growth
    - Students who are used to doing well in school with direct instruction are being forced to solve problems in a unique way; change in the way they engage with learning new knowledge (80-4-194)
        - That kind of perseverance is important for them to learn and practice
- Teacher Engagement
    - After receiving training participants understood their role differently
        - One participant's perspective of how the program worked was broadened (80-4-150)
        - One participant was more engaged (80-5-158)
        - Participants understand that it is necessary to change their expectations to being OK with students working through their struggles, and help them through their frustrations of not getting it (80-4-201)
            - Coaching, cheering, giving students the tools (80-1-209)
    - One participant loves the data reports because she likes to see what her students have achieved (80-5-166)

- Participants appreciated that the district didn't put much pressure on teachers and there was low stress during the first year of implementation (80-4-251)
  - Gave teachers the opportunity to explore the program (80-1-259)
- The district does a reading program in the summer, and is now planning to mirror that program for math using ST Math (80-5-733)
  - One participant suggest the Fluency feature being a huge part of the summer program (80-5-733)

Challenges:

- Training
  - One participant wants to understand more of how the program is "thinking" about math so she can use the program to its best capabilities (80-4-210)
  - Gaps in teacher knowledge due to lack of training
    - Participant who did not receive training in the fall rostered her students on her own and created problems (80-4-129)
    - Participant didn't know what the alerts represented until February after she was formally trained (80-5-152)
  - One participant received training in February when PARCC testing was approaching and felt she was being pulled away from critical instructional time (80-5-501)
    - Participant would have preferred training earlier in the school year
- Training on Working with the Students
  - Participants would like more experience with the games to become better facilitators (80-5-168)
    - One teacher feels "in the dark" because she hasn't practiced the games (80-1-185)
  - One participant would like to find out how to help her lower-level students more productively (80-5-172)
  - One participant is frustrated because she doesn't know enough to answer her students' questions (80-5-501)
  - Participants did not understand their role as facilitator until after they were trained between January and February
    - One participant used the time to grade papers (80-5-156)

- One participant feels she does not know the games well enough and she is not sure what the puzzles are asking of the students (80-5-166)
  - Participant doesn't know if what she is instructing her students to do is actually going to help them
- Participants didn't know until the day of the focus group session that if their students have attempted a puzzle more than 10 times they should set them to a previous level to get more practice with a concept (80-5-181)
- One participant never knew that her students could use manipulatives while on ST Math (80-5-222)
- Only one of the participants was aware of the game mats (80-1-245)

- Access to Resources
  - Lack of Time
    - Participant's biggest challenge is fitting time in her class schedule for ST Math (80-2-431)
      - Deciding whether or not to give up a math lesson to do ST Math (80-2-433)
    - Participants do not have the time in the summer to explore the program more in depth
      - Their time in the summer is devoted to putting more time in to the units that they are teaching (80-2-266)
    - Participants would like to be able to get together with their colleagues and brainstorm after training, but there isn't any time to do so (80-5-575)
    - Participants decided not to use Fluency during the first year because it held their students back from increasing their syllabus progress (80-2-717)
  - Materials
    - One participant never received a physical copy of the manual. She read what was available online (30-1-101)
    - One participant did not receive a manual until the month of January (80-4-127)
  - Access to Devices
    - Shared laptop carts make access difficult at times (80-2-431)
- Student Engagement
  - Lower level students often just sit and stare at their screens (80-5-172)

        - Students are on for 20 minute blocks and they just sit there for 15 minutes
    - Struggling students grew frustrated because the teacher didn't know how to address the hurdles the students were facing, and didn't know that she could move them to a different grade level because of lack of training (80-5-152)
        - The frustrated students' self confidence and motivation never recovered
    - Students are getting frustrated because their work isn't automatically saved and they have to start over when ST Math disconnects (80-1-555)
        - Students feel cheated, like they are not getting recognized for their efforts (80-1-559)
    - Some students do not know how to work through a challenge and get very frustrated; the perseverance piece (80-4-615)
        - One student said, "I just get so frustrated I want to take the iPad and throw it down."
    - Some gifted students get frustrated with ST Math and do not know what to do with it because they are used to everything coming so easy (80-5-622)
    - Some gifted students get frustrated with the program because the animation takes to long (80-4-626)
        - One student said, "It's too easy and boring to go through. It takes so long to get passed one problem. Thirty seconds is too long! It's to easy." (80-4-631)
- Competing Initiatives
    - One participant is using the program XtraMath for Fluency (80-4-736)
- Teacher Buy-in
    - Participants feel in order to use all the features available ST Math has to be their core math instruction (80-4-301)
        - ST Math does not align with their curriculum benchmarks that must be met (80-4-307)
        - Participants can differentiate with certain units such as fractions, but not the whole curriculum (80-1-313)
        - Participants feel that ST Math does a good job at letting students go at their own pace, but not differentiating for them (80-4-320)

        - Lack of conversations with other teachers using ST Math has been a challenge because not enough teachers are using the program (80-1-423)
- Technology Issues
    - Participants and students feel that sometimes the animation is to fast (80-4-189)
    - ST Math on the iPads is not fully functional (80-4-189)
        - Some "hiccups" with the iPads (80-2-451)
        - One participant has experienced that when her kids log on to the iPads the wrong school appears (80-2-449)
        - Sometimes ST Math kicks students out when they are on the iPads (80-2-458)
        - Teacher Mode is very inconsistent on the iPads
    - Students are not on the same cone that they progressed to when they switch between devices at school and devices at home (80-5-404)
    - There are many technical difficulties that the participants find frustrating (80-5-507)
        - The password sharing alert shows up when there is not any password sharing (80-5-507)
    - Issues with district bandwidth is causing ST Math to frequently disconnect (80-4-529)
        - District has increased the bandwidth, but it is still not working the way the company thinks it should and it is not getting resolved (80-4-531)
    - ST Math hotline is not helpful because it is difficult to be on the phone during class time to solve the issues in real time (80-5-668)
- Parent Engagement
    - One participant has parents contact her because their students are frustrated because they can not progress at home (80-1-372)
    - Parents contact teachers to learn how to access ST Math via their personal devices at home (80-4-387)

Recommendations:

- Programming
    - Participants would like the program differentiation piece to be improved (80-4-350)
        - Not everybody student has to follow the same progression

        - District expects teachers to pre-assess their students, and if they already know the material then take them further and deeper. Participants feel that ST Math doesn't align with that (80-1-354)
        - There needs to be a way for them to get through past things that they don't need, and struggle with the things they need to struggle with (80-4-633)
    - Participants would like for ST Math to be more self-sufficient and automatic (80-4-487)
        - Participants want to have the opportunity to help a small group of students who are struggling, or enrich a higher end group of students
        - Students should automatically be able to go to the next level when they pass, and should not have to hit the back button (80-4-542)
            - ST Math should automatically save (80-4-549)
            - Wireless problems worsen this issue (80-4-546)
    - Participants would like to be able to slow down and pause the games to review them with the struggling students (80-4-189)
        - Need time to figure out what feedback the program is giving the child
    - Participants suggest that there be a real time chat feature on ST Math that will pop up in video form during the school day to help with any questions (80-5-647)
- Training
    - One participant would like more training like the June Academy to be offered more than because many can not attend
        - Participant recommends offering it at other times through the summer (80-4-587)
            - Instead of offering 500 dollars to each person give a hundred dollars, and five times as many people can attend and still be rewarded in a monetary way for their time
    - One participant suggests to create a ST Math club for teachers to get together after school once a month for training and to brainstorm
- Student Engagement

- Student wrote "The pre-quiz does not let you skip the lesson or make things harder. It should skip the basics and offer a challenge." (80-4-334)

Math Matters
FG 100 Bullet Point Report
[2-5-ES-85]

Focus Group Leader: Monica Hunter
Focus Group Note Taker: Rachel Orsborn
Focus Group Participants: Elementary/Intermediate School Teachers Gr. 1-7 [n=9]

Introduction: Three teachers were asked to attend district-wide training in October for using ST Math (100-4-5). One teacher worked with a MIND Research Educational Consultant who came to their classroom (100-4-22). Several teachers commented they feel they did not receive adequate training (100-5-49; 100-8-67).

ST Math Usage:

- Establishing a Schedule
  - Teacher utilizes ST Math as a 30-45 minute morning activity and also during her math class when they want to work with a small group and need students to be working on a program without teacher supervision (100-3-135)
  - Program is used as a warm up to the students general math instruction (100-4-187)
- ST Math in School
  - ST Math is utilized in station rotations and small-individualized group work (100-9-89; 100-5-101)
  - ST Math is used in this building as a supplement for Stepping Stones math curriculum (100-4-324; 100-7-383; 100-4-387)
  - Teacher uses ST Math as a supplement when a student does not understand a concept after one-on-one sessions with the teacher (100-1-143)
  - Teacher uses ST Math as a reiteration of the previous weeks lesson materials (100-4-387)
  - One teacher plans on using ST Math as a supplement to introduce their 3rd Graders to 4th Grade level concepts to help satisfy common core requirements (100-1-365)
  - Teacher uses ST Math for modeling math (100-4-177)
  - Younger students chose to play ST Math over an alternative math program when given the choice (100-5-108)

    - Some older students choose an alternative math program because it allows them to select the skills they want to focus on building (100-7-114/116)
    - Teacher uses test drive feature for skill building (100-2-145)
    - Teacher likes the fact fluency feature but did not really utilize it (100-4-189)
- ST Math at home
    - Teacher encourages students to work on ST Math at home for 10 minutes every night, but does not enforce as homework (100-4-189)
    - Another teacher did not assign ST Math as homework in year 1 because they had students who did not access at home (100-3-370)

Achievements:

- Student Engagement
    - ST Math puzzle framework helps students persevere with their math practice because students are less afraid of failure (100-4-215)
    - ESL student is motivated by the nonverbal piece of the program (100-3-218)
- Teacher Engagement
    - Multiple teachers mentioned the program cues were helpful (100-3-294; 100-5-295)
    - One teacher likes how the program is automated and keeps track of the students modeling math growth (100-4-177; 100-4-191)
- Making Connections
    - ST Math helps gifted students understand why they are getting the correct answer and is helpful with the common core curriculum (100-1-185)
- Parent Engagement
    - Teacher was able to address a parent concern regarding their child's fact fluency by recommending the student use the fact fluency feature of the ST Math throughout the summer (100-7-193)

Challenges:

- Training
    - Several teachers did not feel they received adequate training to utilize the program (100-5-49)

  - Teacher felt she was not adequately trained to help her students with forgotten passwords (100-7-233)
  - Teacher notices student alerts but does not understand how to use them (100-9-298)
  - Teacher utilizes the program as an independent math activity for students because they feel they do not have enough training to provide extra support to the students (100-9-89)
  - Teacher does not understand enough about program to assign fact fluency to her students as homework (100-7-198/200)
- Access to Resources
  - Lack of Time
    - Several teachers did not receive their teacher login information until October (100-5-64)
    - 75-minute a week expectation set by Educational Consultant is difficult achieve when using the program as a supplement (100-4-319; 100-4-321; 100-4-324)
    - Late start with ST Math led to confusion regarding if implementation would be district-wide (100-3-344)
  - Access to Devices
    - Some teachers have not assigned homework because not all students have access to technology (100-3-370)
    - Most primary teachers work on math at the same time of the day, therefore the lack of technology resources makes it difficult to achieve recommended time on ST Math (100-7-325)
    - Intermediate grade levels given priority access to devices (100-3-326)
- Technological Issues
  - MIND DDoS attack interrupted November/December training (100-5-47/49)
  - Students bumped back to the beginning when the teacher tries to rearrange the order (100-3-138; 100-1-143)
  - Teacher who works with advanced students had difficulty accessing math above their assigned grade level (100-1-143)
- Student Engagement
  - JiJi's progress across the screen too slow and students lose interest or get distracted (100-1-362)
- Passwords

    - Low-level students have difficulty memorizing passwords (100-5-250)
    - A teacher cannot remember how to sign in and has been unable to roster her new student into the program and get them started (100-6-236/244)
- Making Connections
    - In-class curriculum does not line up with ST Math progress (100-1-353)

Recommendations:

- Training
    - Teachers would like more training on facilitation and would like to observe another teacher facilitating their classroom (100-3-299)
    - Teachers want more training on integrating ST Math lessons with curriculum (100-5-347)
    - A teacher would like training on how students can use ST Math to track their own data (100-4-392)

Math Matters
FG 110 Bullet Point Report
[2-5-ES-82, 2-5-ES-83, 2-5-ES-86, 2-5-ES-89]

Focus Group Leader: Maria Green Cohen
Focus Group Note Taker: Rachel Orsborn
Focus Group Participants: Elementary School Teachers Gr. K-6 [n=5]

Introduction: Teachers were informed by district lead that ST Math was the priority program (110-4-205) In this focus group, one of the schools represented sent only intervention specialists to be trained (110-1-4). Another school chose one person from each grade level to attend the training (110-2-28). One school offered the chance for teachers to have a MIND Research Educational Consultant work with them in their classrooms for a half hour (110-2-30). One participant went to the training in the fall of 2014, but the others did not receive training. Two schools sent older students to younger grade levels to help those teachers get their classes onto the program (110-1-226; 110-5-229).

ST Usage:

- ST Math at School
  - Students having difficulty with other assignments work on ST Math as an alternative (110-3-92)
  - Low students get extra time on the program during their literacy block (110-3-92; 110-2-94)
  - Students with limited or no technology access at home have priority to technology at school (110-3-119)
- Establishing a Schedule
  - Expectation set for teachers to devote 90 minutes a week to ST Math (110-1-201)
  - A teacher has their class get onto ST Math as a whole class group once a week and the program is one of the student's choices during their independent choice centers (110-5-76)
  - A teacher has their class get onto ST Math as a whole class group for 30 minutes every week and during partner math time for an additional 30 minutes (110-2-94)
  - A teacher is trying to establish a rotational schedule where students get onto the program every 3rd day (110-4-89)
  - A teacher has their class do station work which allows them to work on ST Math for 30 minutes a week. In addition, they have extra

study time throughout the day they can choose to devote to ST Math (110-1-106)

- ST Math at Home
  - Any unfinished work in the student's current grade level will be assigned as homework to be completed by the beginning of the next school year (110-1-283)
- Teacher Engagement
  - Students are moving at different pace and some students are staying on number sense much longer than others (110-5-160; 110-5-162)
  - One teacher uses videos on the Teacher Resource web page to introduce concepts to their class (110-4-59)
- Incentives
  - A teacher offered prizes for students to work on program over winter and spring break (110-1-106)
  - Teacher uses sticker charts provided to track students progress (110-2-69; 110-5-138)
  - One school had a building wide ST Math competition for class with the most growth rewarded with a popsicle party (110-5-242)
- Moving Forward
  - Teacher plans to reorganize the order of the ST Math activities to get a jumpstart on the more important educational standards (110-3-168)
  - A teacher wants to combat issues with consistency by establishing a routine of having students get onto ST Math several mornings a week (110-3-255; 110-3-257)
  - Because the school is receiving an additional device cart, establishing a routine for when classes get onto ST Math will help make cart distribution throughout the school more efficient (110-2-259)

Achievements:

- Student Engagement
  - ST Math program helps students have a more positive view on math and students who are typically quick to give up on assignments are more motivated to keep trying (110-3-121)
  - Sticker charts and postcards are motivating for students (110-5-138)

    - Student fatigue typically associated with playing alternative programs not observed in students while playing ST Math (110-1-244)
    - When the kids are playing ST Math on a routine schedule, they know when they will be on the program and show enthusiasm about it (110-2-259)
- Teacher Engagement
    - Teacher's classes were rostered beforehand which was found helpful (110-4-268)
    - Two schools sent older students to younger grade levels to help those teachers get their classes onto the program (110-1-226; 110-5-229)
- Making Connections
    - ST Math helps students who struggle with abstract thinking make connections with concepts they are learning in their lessons (110-1-125; 110-4-129)
    - Immediate corrective feedback helpful for students struggling with number sense (110-5-138)
    - ESL student making new connections with math concepts (110-5-138)

Challenges:

- Technological Issues
    - A teacher assigned ST Math as homework but was unsure how to measure the time spent at home on the program (110-4-87)
    - Manipulatives difficult for students to move when working on touch screen devices (110-3-210)
    - Some devices would not connect to the internet and families in the district have unreliable internet (110-1-113)
    - Students weren't making progress when they were not logging off of the program properly and produced student frustration (110-5-232)
    - Blue log-in class page was difficult for teacher to navigate (110-3-299; 110-3-303)
- Student Engagement
    - Teacher finds it difficult to keep students on track with ST Math while trying to teach another topic (110-3-92)
    - Students will not ask for help when they need it and they will continue to play the game without making progress. It is hard for

the teacher to find time to connect with every student during their ST Math time (110-2-178)

- Competing Math Programs
  - A teacher finds it difficult to divide time between ST Math and other alternative programs (110-1-201)
- Teacher Buy-In
  - A curriculum leader experiencing difficulty with teacher buy-in and is not sure how to address the problem (110-4-223)
- Training
  - Only intervention specialists were trained one building and a teacher felt they were not fully aware of all of the features of the program (110-1-265)
- Access to Resources
  - Materials (Manuals)
    - Primary teacher did not understand that kindergarten students initially learn only the first 8 characters of their passwords (110-5-187)
  - Access to Devices
    - Limited number of devices are able to be shared in the primary building (110-3-193; 110-3-195)
- Passwords
  - Password memorization issues (110-2-178; 110-5-181; 110-5-191)

Recommendations:

- Programming
  - The required length of the students password is too long and a shorter password requirement would be more practical (110-4-190)
- Training
  - Teachers would like more clarity on how much they should be helping the students and what ways are most effective for them to be helping students (110-4-207)
  - Teachers trained with the program want clearer expectations for providing training to additional faculty members (110-3-275)
  - During the initial program training, provide better instructions on how to use the Teacher Resource Center (110-5-296)
- Timing
  - Earlier start with the program before teachers fall into their routines (110-4-264)
- Resources

- Provide a manual to all teachers expected to use the program (110-3-289)
- Provide sticker charts and stickers to teachers (110-4-290)

Math Matters
FG 120 Bullet Point Report
[1-1-ES-2]

Focus Group Leader: Maria Green Cohen
Focus Group Note Taker: Kayla Galloway
Focus Group Participants: Elementary School Teachers GR. K, 1st, 3rd, and 4th [n=4]

Introduction: The participants were made aware of ST Math through another elementary school [1-1-ES-6] in the district that was piloting ST Math (120-1-158). Teachers were required to watch the online modules first before they were allowed to implement ST Math in the classroom (120-4-160). In November the district offered half-day training at [1-1-ES-6] with the educational consultants (120-1-20). Teachers could attend the training as many times as needed to understand the program better (120-3-32). The educational consultant participated in classroom visits for each participant in March (120-1-87). She helped them identify when a student is stuck (120-1-60), and how to facilitate (120-4-82). The educational consultant attended the staff meeting at the beginning of the day to go over the school and students' progress reports (120-2-76). Two of the participants never received a manual, and printed some things off from the online modules to help guide them (120-4-100).

ST Math Usage:

- Establishing a Schedule
    - One participant uses ST Math twice a week, every Thursday and Friday, for a total of 45 minutes (120-4-249)
        - About 20 minute blocks for each ST Math session
    - One participant gets her class on for a total of a half hour in a two-week period (120-3-294)
        - Three days a week for a half hour
        - Tuesday, Thursday, and, if the schedule permits, Wednesday for a half hour
        - Educational assistant is on a rotating schedule, and pulls eight students Monday through Thursday

- ST Math at School
    - One teacher allows students working on the challenge to sit side by side as a support system to help guide one another (120-3-178)

        - Students feel more comfortable and willing to attempt the challenges; more effective (120-3-184)
    - 3rd grade uses ST Math for their Response to Intervention (RTI) time (120-2-270)
    - One participant's students post test scores started to improve after she told them they must show her their scores before they can move on. This made them slow down and take it more serious because it is their mastery (120-3-359)
    - One participant has used ST Math in a whole group setting on the class white board, and had all students participate (120-3-636)
- ST Math at Home
    - Three of the participants do not assign ST Math as homework, but it is open and available for students to work on at home (120-3-198)
    - One participant's students have been using Fluency at home on their own (120-3-330)
    - Two of the participants sent home a parent letter and code sheet created by the librarian to help students access ST Math at home (120-2-225)
- Devices
    - Kindergarten uses ST Math daily with iPads from a shared iPad cart or in the computer lab (120-1-236)
- Incentives
    - The principal offered an ice cream challenge to the whole building for students who reach 100 percent syllabus progress (120-1-277)
        - One teacher modified the ice cream challenge for her class to be 100 percent syllabus progress and 80 percent mastery (120-3-286)
            - Lowest in class percentage of mastery was 85 percent (120-3-290)
    - During the educational consultants classroom visits she gave a student a JiJi pencil for achieving syllabus progress (120-1-535)
        - Afterwards, all students were motivated to achieve 100 percent syllabus progress to earn a JiJi pencil (120-1-535)
        - Participants say JiJi pencils are too expensive to buy from the JiJi store (120-2-541)

Achievements:

- Student Engagement
  - Students love and really look forward to ST Math (120-2-274)
    - If a student is absent students jump and beg to take their place at the ST Math station (120-3-296)
  - 15 students from the 4th grade reached 100 percent syllabus progress by the ice cream challenge party (120-3-284)
  - Teachers feel students are gaining knowledge and developing problem solving skills through the use of ST Math (120-1-476)
  - Over 40 students earned the ice cream challenge party (120-1-879)
- Teacher Engagement
  - One teacher went to the JiJi store and bought a t-shirt and a cutout foam board JiJi (120-2-120)
    - Students loved and identified with the JiJi t-shirt. Participant described the students reaction as incredible (120-2-136)
    - The participants recommendation to make a JiJi stuffed animal was forwarded to product development (120-2-122)
    - Participant believes that teachers and students would love a stuffed animal JiJi to put on display in the classroom (120-2-126)
  - Teachers are still actively using ST Math in the classroom during the last week of school (120-1-232)
  - One teacher absolutely loves ST Math (120-2-270)
  - Teachers like ST Math because it differentiates, and everybody can work at their own pace (120-2-270)
  - One participate prefers ST Math to other programs because it does not utilize a reward system on the program, such as coins, that takes up time and has distracting noises (120-3-522)
    - Participants find students love the program and are just as motivated without the distraction (120-4-531)
- Opportunities for Communication
  - One teacher has the opportunity to talk with her grade level partner on a consistent basis (120-3-164)
- Sharing Strategies
  - The teachers in the building are going to each other with questions, stuck students, and to trouble shoot (120-2-425)
- Parent Engagement
  - One teacher has parents requesting directions on how to get on at home and the code sheets (120-1-208)

        - The teacher sent out a parent letter and attached a code sheet that she personally drafted (120-1-206)
- Making Connections
    - Teachers see students starting to make the connections (120-4-344)
        - One participant had a student come up to her while she was teaching the class fractions and whisper, "I'm doing that on ST Math." (120-4-340)
- Moving Forward
    - One teacher wants to move the objectives around in the summer to fit her curriculum schedule (120-3-383)
    - Three of the participants are attending the June Academies this summer (120-4-457)
    - Participants would like to learn new strategies to use ST Math in the classroom other than just during intervention time (120-2-621)
    - The one participant who did not send home a parent letter and code sheet with her students thinks it is a good idea, and plans on doing it next year (120-3-671)
    - All participants plan on starting ST Math right away at the beginning of next school year to enhance the program (120-1-693)
    - The principal is buying items from the JiJi store over the summer to create an in school JiJi store as an incentive (120-2-866)
    - Participants would like to have a JiJi Wall of Fame for next year (120-4-954)

Challenges:

- One of the issues a participant came across while using ST Math was that some of the concepts from Common Core that do not need to be taught any longer are still on ST Math (120-3-389)
- Training
    - One teacher would like to know how to assign ST Math as homework (120-4-194)
    - One teacher did not find out about Fluency until late in the school year (120-4-253)
    - One participant did not know that reordering the curriculum was an option (120-1-395)
    - Gaps in teacher knowledge as it pertains to ST Math availability in the summer
    - Participants would love more training (120-2-429)

- Participants would like to know more on how to read the reports and how to use them (120-4-432)
- Participants would like to know how to transfer students into their class whether they are from inside or outside the district (120-4-823)
- One of the participants had a student transfer from a neighboring school district that used ST Math, and because she didn't know how to properly transfer her account into her class the student lost all her progress and had to start over (120-4-580)
- One participant's class was not logging out successfully until the educational consultant became aware of it during the classroom visit (120-1-830)
- One participant didn't know about the postcards from JiJi (120-1-903)

- Access to Resources
  - Lack of Time
    - Participants do not have Fluency because they feel like they do not have time for a feature that does not count towards the students' progress (120-3-254)
      - Two of the participants didn't want to take 10 minutes out of the scheduled 30 minute ST Math time for Fluency because they already spend time practicing their facts and time testing (120-3-325)
      - One participant stopped using Fluency because she felt behind the eight ball because of the preparation for PARCC testing and the ice cream challenge linked to syllabus progress (120-2-309)
  - Time for science and social studies is decreasing because of the emphasis on ST Math (120-4-493)
  - Materials
    - Two of the participants never received a manual, and printed some things off from the online modules to help guide them (120-4-100)
  - Access to Devices
    - Teachers would like to assign ST Math as homework, but many students do not have access to devices and the Internet at home (120-2-195)
    - 3rd grade shares an iPad cart with 4th and sometimes 5th grade making access difficult (120-2-262)

- Student Engagement
  - Teachers are experiencing problems with students staying focused on their own screens (120-4-297)
  - Two participants have experienced students asking to do Fluency when they are struggling on a difficult section as a way to take a break (120-4-335)
  - Students are getting frustrated and not wanting to do ST Math because the challenges are too difficult (120-3-182)
  - Students become frustrated when they already passed a puzzle and it appears again. They feel like they have been set back (120-2-422)
  - Students become frustrated and dread the levels that have animation that is too slow; time consuming (120-2-420)
- Competing Initiatives
  - Kindergarten splits computer time between ST Math and a reading program called Lexia (120-1-238)
  - 4th grade splits computer time between ST Math, Lexia, and Spelling City (120-4-243)
- Technology Issues
  - Students are having a difficult time logging in at home (120-4-104)
    - Students have been having difficulty accessing ST Math through quick links so they chose to download the app (120-3-214)
    - One of the participant's students constantly get the shared password alert, but are not sharing passwords (120-1-305)
  - Teachers and students are experiencing the wrong school coming up on the iPads (120-4-604)
  - One participant has had a difficult time accessing the postcards from JiJi because the link isn't working (120-4-916)
- Passwords
  - Participants were experiencing a lot of time being spent on password retraining during the first couple months (120-4-742)
  - It was difficult for kindergarten students to learn their passwords (120-1-705)
    - The teacher made password cards with pictures displaying the characters for over half the class (120-1-707)
    - The kindergarteners were just choosing pictures they liked every time they logged on (120-1-730)
- Making Connections

    - Students are struggling with associating the questions on the post test with what they are doing on the ST Math puzzles (120-2-347)
- Moving Forward
    - The elementary schools in the district are entering a huge transition period with many teachers and students transferring to new buildings. Participants are worried about how the transition will affect their ST Math accounts (120-3-750)

Recommendations:

- Programming
    - One participant suggest that there should be a way to remediate if a student earns a low post test score, such as a way to go back and review the areas the student didn't past without penalty (120-2-366)
- Technology
    - It would be nice to have the option for students to be able to use their numeric school code that they already know as their password for ST Math (120-1-705)
- Resources
    - The participants recommendation to make a JiJi stuffed animal was forwarded to product development (120-2-122)
    - Participant believes that teachers and students would love a stuffed animal JiJi to put on display in the classroom (120-2-126)
- Communication
    - Communicate some idea of the longevity of ST Math in the district (120-2-483)
        - One participant is worried that ST Math is going to be dropped like many of the programs that the school has had access to in the past (120-2-483)
            - Participant loves ST Math and has invested a lot of time into the program

APPENDIX

Math Matters: Knowledge Capture Focus Group Reports (3)

Fairfield and Franklin Counties

Middle Schools (All Districts)

Note: Focus Group Reports are coded to assure participant anonymity. For example, codes appear as a series of numbers and letters (1-9-MS-33) where the first number represents the county, the next number indicates the district, the letters refer to grade level (e.g., elementary school (ES); middle school (MS); and high school (HS); and K-12 (K-12-ALL), and the last number in the series signifies the school building.

Math Matters
FG 20 Bullet Point Report
2-2-MS-63

Focus Group Leader: Maria Green Cohen
Focus Group Note Taker: Kayla Galloway
Focus Group Participants: Middle School Teachers [Grades 6-8] [n=8]

Introduction: Teachers in this district were trained directly by MIND Research Institute Educational Consultants (20-1-25; 20-1-27). Teachers participated in both Part 1 and Part 2 training sessions (20-2-30; 20-2-32). Additional support provided by the MIND Educational Consultant included a school site visit and data meeting (20-1-25; 20-1-27).

ST Math Usage:

- Establishing a Schedule
  - Teachers have a daily 90 minute block for math instruction daily (20-3-57; 20-5-59)
  - Students are using ST Math everyday (20-1-42; 20-1-44; 20-3-68)
  - Students have 30-40 minutes at the end of class to work on ST Math (20-3-64)
  - Some teachers are using ST Math during rotation where students have 25 minutes per day on ST Math (20-1-42)
  - Intervention teacher has students work with ST Math in a "workshop model" 3-5 times per week (20-7-164)
- ST Math at School
  - Some teachers are using ST Math during whole class instruction (20-2-178; 20-2-320; 20-6-321)
- ST Math at Home
  - Teachers have made ST Math available for students to work on at home (20-2-27; 20-1-272; 20-2-275)
  - Some teachers have opened all ST Math objectives up for home usage (20-2-275)
- Incentives
  - Some teachers are tracking progress using ST Math poster and stickers (20-2-478)
  - Some teachers are using individual tracking sheets to review goals with students and awarded candy when goals are reached (20-1-482; 20-6-483)

- Devices
  - Students are accessing ST Math on Chromebooks (20-1-54)
  - Each teacher received 10 Chromebooks, including the Instructional Coaches (20-6-83; 20-2-85; 20-2-87)
  - Classroom where Instructional Coach works with teacher has access to 20 Chromebooks (20-2-89)
  - One Instructional Coach splits time between two classrooms, these rooms have access to 15 Chromebooks (20-5-92; 20-2-93)
  - In some classrooms iPads are also available (20-2-100; 20-2-102)
  - Students prefer working on Chromebooks during ST Math time (20-2-100)

Achievements:

- Student Engagement
  - Students are highly engaged in ST Math (20-2-261; 20-5-262; 20-2-263)
  - Students who finished PARCC testing chose to play ST Math games (20-5-256; 20-2-258)
  - Some students like having their progress tracked with stickers (20-2-478)
  - Students continually ask if they will have an "all ST Math day" (20-6-265)
  - Students who have lost interest in other online math programs have not lost interest in ST Math (20-5-259)
  - Students select ST Math over other available programs (20-5-259)
  - Students signed up for afterschool ST Math social event (20-1-412; 20-5-417)
  - Students are clamoring for more ST Math social events (20-2-419; 20-1-420)
  - Students who go to help others must stay focused on ST Math or they will forego opportunity to help for remainder of the day (20-2-210)
  - One student went from 40% completion to 70% completion in a short time (20-2-275)
  - Some teachers have students work with peers who are struggling (20-1-191)
  - Teachers have appointed JiJi Consultants in their classrooms (20-2-193)
  - Students are given JiJi Consultant nametags (20-2-195)

  - In some classrooms appointment as a JiJi Consultant is based on percentage of progress reached (20-2-195)
  - One teacher has students submit a job application and be interviewed for a Consultant position (20-6-196)
  - In some classrooms students who notice alert frames of their peers raise their hands to ask to help those struggling (20-1-205)
  - Teachers offer "down days" before holidays and breaks (20-6-265)
  - Teachers want to create a "strategy board" to help students work independently when they become stuck on puzzles (20-5-155)
  - Students know how to run ST Math (20-2-606; 20-6-607)
  - Teachers feel it will be easier for students to explore mathematical thinking (20-4-470; 20-4-472)
- Teacher Engagement
  - Teachers see ST Math is a beneficial activity during "down days" (20-6-269)
  - Teacher created own account to learn the games (20-6-351)
  - Teachers expressed gratitude for being part of the Math Matters grant (20-2-575; 20-2-577)
  - Teachers appreciate ST Math as a good option during study hall (20-5-594; 20-1-595)
  - Teachers like that ST Math is math without words (20-2-231)
  - Teachers find it a good way to acclimate students to the classroom (20-2-241)
  - Teachers feel they no longer waste student instructional time (20-2-239)
  - Teachers appreciate not having to rely on worksheets for practice (20-3-236)
  - Teachers believe it will be easier to monitor students (20-1-248; 2-2-251; 20-2-490)
  - ST Math works well when substitute teachers are in the classroom (20-2-597; 20-2-601)
  - Substitutes do not need ST Math preparation (20-2-606)
  - Teachers using ST Math during whole group instruction find it easier to work with struggling students (20-6-319; 20-2-322)
- Opportunities for Communication
  - Students can help each other (20-2-608)
  - Substitutes are curious about ST Math and their questions about the program provide opportunities for students to explain mathematical thinking (20-5-609; 20-4-610)

    - There are opportunities for communication between teachers using ST Math (20-2-104)
    - Teachers have grade level meetings where they discuss ST Math (20-1-106)
    - Grade level teachers have common planning time where they discuss ST Math (20-2-107)
    - Teachers across grade levels discuss ST Math informally (20-2-109; 20-1-111)
    - Teachers have had opportunity to discuss ST Math during PD days (20-5-112; 20-5-114; 20-6-115)
    - One student who is working on ST Math at home sends teacher screen shots when stuck (20-2-275)
    - Student and teacher have worked together using Face Time (20-2-275)
- Sharing Strategies
    - Teachers have shared strategies on using ST Math in the classroom (20-2-117)
    - Use of manipulatives (20-2-117; 20-2-120)
    - Taking lessons to the whiteboard (20-5-121)
    - Fitting ST Math time into the class period (20-6-74)
    - Using Teacher Mode with students who are out of JiJi tries (20-6-328; 20-6-331; 20-1-332; 20-6-333; 20-1-336; 20-2-338)
- Making Connections
    - Students recognize games previously played when introduced to curriculum in classroom instruction (20-2-237)
    - Students connect math concepts explored on ST Math with classroom instruction (20-3-236; 20-2-237; 20-2-239)
    - ST Math works well for students with lower cognitive skills because they can see the math concepts visually (20-1-246)
    - In classrooms where the teacher prints out JiJi postcards students express confusion as to why JiJi can jump from New York to France but not jump over an obstruction on the screen (20-6-538)
    - Teachers feel ST Math challenges higher level students to think about math differently (20-1-244)
    - Students are not just memorizing algorithms (20-2-245)
    - ST Math is great for new students coming in at the end of a unit as well as English Language Learners (20-2-239; 20-2-241; 20-2-243)
- Parent Engagement

    - Teachers have been trying to engage parents with ST Math (20-2-488)
    - Teachers are discussing ST Math with parents during conferences (20-2-488)
    - Teacher sent weekly emails with ST Math link to parents of student with low completion rate (20-2-488)
- Moving Forward
    - New students work on ST Math until the class is ready to start a new unit (20-2-241; 20-2-243)
    - Teachers are looking forward to using ST Math next year (20-2-348; 20-2-350)
    - Teacher plans to reorder curriculum next year so they start with easier math concepts (20-2-150; 20-1-151; 20-2-152)

Challenges:

- Student Engagement
    - Some gifted students do not like ST Math (20-4-431; 20-4-433; 20-2-434; 20-4-437)
    - These students think the puzzles are too repetitive once they have grasped the mathematical concept (20-4-435; 20-3-436)
    - Some gifted students feel the games go too slowly (20-3-452; 20-1-453)
    - Initial six objectives for grade level in the ST Math curriculum are challenging (20-6-145)
    - Some students are still working on early levels (20-6-145; 20-6-147)
    - Students are frustrated by lack of progress (20-6-147; 20-2-150; 20-2-152)
    - Some student are guessing solutions for puzzles (20-2-143)
    - Students rush through the quizzes because they just want to play the games (20-1-250)
    - Student JiJi Consultants are not consistently using facilitating questions (20-2-212; 20-2-214)
- Making Connections
    - Teachers are concerned that students do not understand math concepts (20-2-143)
    - Low test scores on post-quizzes (20-1-248)
    - Students do not have accountability (20-1-250)
- Technology Issue
    - Games will not allow for skipping levels (20-4-454)

    - Unreliable Wi-Fi in the school makes it difficult to access ST Math (20-3-96; 20-4-97; 20-1-255; 20-1-277; 20-4-278)
    - ST Math site went down causing challenges during rotation time (20-1-279; 20-4-280; 20-2-281; 20-1-282)
    - Students used worksheets or played other math computer programs (20-2-283; 20-2-285; 20-1-291; 20-2-293)
- Access to Resources
    - Access to Devices
        - Teachers are unclear on how ST Math will be available to students over the summer (20-2-348; 20-1-349; 20-2-350; 20-1-353; 20-2-354; 20-1-355; 20-2-356)
        - Not all students have access to ST Math at home (20-1-272)
        - Lack of internet access (20-2-275)
    - Lack of Time
        - Teachers do not have time to work with students using ST Math during rotation (20-2-143; 20-2-190; 20-2-345)
        - Teachers are working in small group instruction while students are using ST Math (20-1-218; 20-2-220)
        - Teachers are having difficulty developing strategies for working with ST Math students during rotation (20-2-190)
    - Materials
        - Some teachers feel that they did not get good support from MIND (20-1-302; 20-2-310; 20-2-312; 20-2-314; 20-4-397; 20-4-399; 20-2-404)
        - Educational Consultant recommended calling ST Math for some issues (20-2-301)
        - Teacher felt telephone assistance was lacking (20-1-302; 20-2-306)
        - Teacher had impression that assistance was scripted and generic (20-2-306)
        - Parent asked questions that teacher could not get help answering from MIND (20-2-488)
        - Teachers never received requested "JiJi swag" (20-1-391)
        - Teachers have not consistently received JiJi postcards for passing percentage levels (20-5-534; 20-2-535; 20-1-537)
        - Information on Teacher Resource site was not always helpful (20-2-408; 20-2-410)
- Teacher Engagement

- Teachers are monitoring JiJi Consultant behavior but are unable to hear the interaction (20-2-214)
- Teachers are not seeing as much progress in ST Math as anticipated (20-2-143; 20-6-145; 20-6-147; 20-2-150)
- Teachers have a number of classes without other adult educators in the room (20-1-224; 20-2-225; 20-6-226; 20-2-227)
- Teachers feel "stupid" when they cannot solve ST Math puzzles (20-2-324)

Recommendations:

- Programming
  - Teacher suggested that students have a student version of teacher mode available when they have trouble solving puzzles (20-2-387)
  - Students could play back the solution in a slower mode (2-4-386)
  - Teachers would like to have direct access to moving students between teachers instead of working through administrator or Educational Consultant (20-5-510; 20-2-511; 20-6-515; 20-2-516; 20-2-522; 20-1-523)
  - Teacher suggested that certain objectives should be skipped for those with high pre-test scores (20-2-460)
  - Teachers would like access to elementary curriculum for students with severe cognitive issues (20-7-545)
  - Teachers feel that students should have access to all of the middle school curriculum so they could move up grades at their own pace and retain their progress over the summer (20-5-491; 20-5-494; 20-1-505; 20-1-508; 20-5-510; 20-5-511)
- Technology
  - Students prefer working on Chrome books during ST Math time (20-2-100)
- Training
  - Teachers feel they should be able to play all the games over summer break (20-2-348; 20-2-350; 20-6-351; 20-2-327)
  - Teachers would like suggestions for which hands-on materials to use for specific ST Math games (20-5-126; 20-5-128)
  - Teachers need clarification on how ST Math is available over the summer to both teachers and students (20-2-348; 20-1-349; 20-2-350; 20-1-353; 20-2-354; 20-1-355; 20-2-356)
  - Teachers would like more strategies to use while working with students (20-2-190)

Math Matters
FG 50 Bullet Point Report
[1-3-MS-20]

Focus Group Leader: Monica Hunter
Focus Group Note Taker: Maria Green Cohen
Focus Group Participants: 5th Grade Math & Science Teachers [n=4]

Introduction: Teachers in this district received their training on ST Math through special ST Math PD in November and small-group sessions (50-3-30/32; 50-3-121). This building also reimbursed teachers for completing the online training modules (50-2-39/41/54). Teachers were expected to have their students spend 90 minutes a week on ST Math (50-2-124).

ST Math usage:

- Establishing a Schedule
  - In one classroom, students were getting onto ST Math for 35-minutes every week during their daily rotation classroom innovation time (50-5-161).
  - Another teacher used ST Math daily during their math class for 20 minutes (50-2-250).
- Incentives
  - Teachers motivate students to use program with sticker charts and candy (50-2-238; 50-3-239; 50-2-250)
  - Teacher uses competition with other classrooms in the building to motivate completion of the program (50-2-252)
- ST Math at School
  - Students were required by building leader to be in ST Math by the last week of November (50-3-121)
  - One teacher works with students to set personal goals depending on their pace in the program (50-2-243/245)
  - Teacher was using ST Math only during Innovation time not during class time (50-5-161)
- ST Math at Home
  - Initially building leader informed teachers they could not assign the program as homework (50-2-260)
  - Parents are asking for their students to have access to the program over the summer (50-2-285)

Achievements:

- Making Connections
  - Students are able to connect ST Math games to math concepts learned in class (50-2-210)
- Student Engagement
  - More students started reaching the 100% progress mark when the program was opened for homework (50-3-256)
  - Students love ST Math (50-2-250)

Challenges:

- Competing Math Programs
  - One teacher chose to use an alternative math program instead of ST Math because the alternative math program gives instant feedback and pushes kids past their grade levels (50-4-134)
  - One teacher switched from using ST Math to using Kahn because it provides instant feedback for students (50-4-134)
  - Priority for time on math programs goes to Eureka (50-3-180)
- Training
  - One teacher was never able to meet with MIND Research Educational Consultant while she was in the building (50-5-25; 50-5-168)
  - Other teachers met with the Educational Consultant only at the beginning of the year with the introduction of the program (50-3-174)
  - Teachers felt out of the loop with training and information (50-5-27; 50-2-102)
  - A teacher was expected to spend some personal time to learn program because materials were not easily accessible (50-3-321)
  - Small group professional development sessions on ST Math did not include integration of ST Math with Eureka (50-2-102; 50-2-106; 50-2-108; 50-4-77; 50-2-78)
- Student Engagement
  - LD students need to be able to start at a lower level (50-3-148)
  - Students who have completed 100% do not receive new additional goals (50-3-137)
  - Students lose interest when they are stuck in a long repetitive set of games when they already understand the concepts (50-4-145)

    - Low-level students had difficulty following steps and staying on track and would eventually give up playing ST Math games (50-5-165)
    - Issues with differentiated learning (50-2-308)
        - Students who reached 100% syllabus progress and completed all of the challenges no longer had a goal and could not advance to a higher-grade level (50-3-137; 50-2-273; 50-2-311)
        - Some students need to start at a lower level than their grade level (50-3-148/150)
        - Pre-tests do not allow students to completely skip levels (50-2-279)
        - Teachers perceive ST Math only benefits students with low skills and students with higher skills are not growing (50-4-334)
        - Students who are 100% completed on their grade level of ST Math have nothing to do over the summer (50-2-273)
- Access to Resources
    - Lack of Time
        - No time to align curriculum with ST Math—told to had to use ST Math by end of November (50-4-120)
        - Teacher had difficulty tracking 90 minutes because of the way the time was logged (50-2-124)
        - Teachers did not have time to spend on the Teacher Resources website (50-2-177; 50-3-178)
    - Manuals
        - Teachers did not read manual (50-3-67; 50-2-68)
- Technological Issues
    - Issues accessing Teacher Mode on iPads (50-3-184)
    - Only one person in the district devoted to technological problems so most teachers need to figure out their technological problems on their own (50-3-226; 50-2-227; 50-3-228)
- Making Connections
    - ST Math uses few words while PARCC is extremely word-heavy (50-4-213)
- Parent Engagement
    - District did not provide adequate explanation of program to parents (50-4-291)

Recommendations:

- Training
  - Training could include how to use ST Math to integrate with designated math curriculum (50-2-102)
  - Training desired focused less around student interaction with games and more focused on how teachers can utilize the program with their lesson plans and help teachers reorder curriculum (50-2-106)
- Technology
  - Feedback on student progress reports should be immediate (50-3-127; 50-2-132)
- Student Engagement
  - LD students need to be able to start at a lower level (50-3-148)
  - Teachers would like to see a diagnostic that would move students out of areas they are already strong in (50-2-275/277/279/281)
  - Provide students ability to move beyond their grade level when completed (50-3-144)
  - Teachers would like to see ST Math be more individualized (50-2-281)
  - Students who have completed all the curriculum should have access to additional materials over the summer (50-2-273)

Math Matters
FG 90 Bullet Point Report
[1-3-MS-20]

Focus Group Leader: Maria Green Cohen
Focus Group Note Taker: Lisa Beiswenger
Focus Group Participants: 6th Grade Math/Science Teachers and 6th Grade Intervention Specialists [n=8]

Introduction: The teachers received training for ST Math during a PD day in October with the MIND Educational Consultant (90-2-5; 90-5-6; 90-4-7; 90-3-13). Additionally, several teachers completed the online training modules (90-3-8/9). The teachers were not required by the district to complete the online training modules (90-5-139; 90-7-147), but the district provided reimbursement opportunities for teachers who chose to complete them (90-2-141). Teachers were asked to have their students on ST Math for 90 minutes every week (90-1-27). The school had grade level weekly staff meetings where the teachers could discuss ST Math (90-3-66; 90-5-67; 90-3-71; 90-6-73). The school uses iPads for ST Math (90-3-115). There is a cart of iPads assigned to each team of 2 teachers (90-2-117).

ST Math Usage:

- Establishing a Schedule
  - Teacher uses ST Math with their entire class once a week on "ST Monday" (90-2-22; 90-2-26)
  - Teacher has their students on ST Math twice a week: 30 minutes during ENI intervention time and 60 minutes during math class (90-3-33)
  - Grade level weekly staff meetings were used to discuss methods of overcoming student obstacles with ST Math (90-3-66; 90-5-67; 90-3-71; 90-6-73)
- ST Math at School
  - When students finish their homework assignment early they have the opportunity to get onto ST Math (90-2-26)
  - Teachers able to reach 90 minute goal for the majority of the year (90-7-31)
  - Teacher allows struggling students ask for help from classmates (90-2-41)

  - Students help each other when they work in small group settings (90-5-42; 90-3-313)
  - Teacher uses journaling to have their students reflect on their daily progress with ST Math (90-5-61)
  - Teacher has students record number of minutes and modules completed (90-7-62)
  - Teachers do not mandate that the students use the fluency feature (90-3-124; 90-5-125; 90-1-126)
  - Data reports were utilized while the students were working to see how they were advancing in the program (90-2-153/155)
  - Assistant Principal would bring data reports to teachers to discuss student progress (90-3-159/161)
  - Assistant Principal and MIND Educational Consultant worked together to give the teachers a rough goal of where their students should be by the end of the year (90-3-167)
  - One teacher used the computer lab to get their students on ST Math when the iPads were locked down for PARCC testing (90-5-176)
  - When students did not want to work on ST Math during their class time the teachers would have them work on it during recess (90-5-227/230; 90-3-234)
  - One teacher uses Teacher Mode to project on the whiteboard to help walk students through different approaches in the program and help prevent student frustration (90-2-309; 90-7-310)
- ST Math at Home
  - Students ask for codes to play at home (90-7-52)
  - Teachers look to see if students are playing at home but do not assign ST Math as homework (90-3-54; 90-5-55)
  - One teacher assigned weekly goals over spring break for students behind in the program but did not require it to be completed (90-8-56)
  - Parents are not seeing it played in their homes (90-2-223)
  - When discussed at PTSO meeting in the fall, many parents remarked that they liked it and their students were excited about it (90-3-224)
  - A teacher sent a letter home to parents about ST Math and posted information about it on their classroom website (9-5-225)
- Incentives

- Small intervention tutoring group motivated by playing ST Math for their "Fun Friday" (90-4-46)
- When students started to lose interest in program, a teacher used progress charts to motivate them (90-2-58)
- Students excitement about JiJi stickers (90-3-59; 90-3-247)
- Student excitement when JiJi came to the school to hand out certificates for program completion (90-2-250; 90-8-251; 90-3-249)

- Devices
  - Some kids preferred using the computer for ST Math instead of the iPads (90-5-176)

Achievements

- Student Engagement
  - ST Math allows the students to work through math concepts at their own pace (90-2-79)
  - Students are sent to receive help from a classmate who has completed the program (90-3-201)
  - Once students reach 30% in the program, they seem to move along faster and therefore become more motivated to play (90-3-236; 90-2-237; 90-3-238)
  - Student excitement when JiJi came to the school to hand out certificates for program completion (90-2-250; 90-8-251; 90-3-249)
  - Teachers able to reach 90 minute goal for the majority of the year (90-7-31)
- Teacher Engagement
  - Teachers believe the next year's incoming students familiarity with will help move along the program (90-5-259)
  - Teacher excited for consistency of using one program over the course of the next 5 years (90-2-260)
  - A teacher did not expect students to be able to memorize passwords, but was sold on the program when they realized the students were able to memorize them (90-2-264)
  - Teachers never had issues with students memorizing their passwords (90-8-265; 90-269; 90-4-274)
  - A teacher found the passwords were easy for the students to memorize because they were choosing every icon from a different group (90-7-271)

        - The support provided by the MIND Educational Consultant was considered a big plus of the program for the participants (90-2-278; 90-279)
    - Sharing Strategies
        - Grade level weekly staff meetings were used to discuss methods of overcoming student obstacles with ST Math (90-3-66; 90-5-67; 90-3-71; 90-6-73)
    - Making Connections
        - Students able to make connections with rubber band activities and ratios (90-3-206)
        - Teacher thinks the program teaches an important life lesson on perseverance (90-7-239)
    - Parent Engagement
        - One parent emails a teacher regularly to discuss how he can push his son to move forward in the program (9-3-224)
    - Moving Forward
        - In the future, a teacher wants to establish a schedule where their students get on ST Math twice a week as independent work. The teacher will front-load the material to better fit their curriculum and set dates for completion to motivate the students to keep pushing through (90-5-257)

Challenges

- Access To Resources
    - Time
        - Teachers found it difficult to have students on for 90 minutes a week during the PARCC testing (90-6-30; 90-7-31)
        - Intervention specialist finds it difficult to find the time to utilize ST Math with their students (90-6-130)
        - Teacher is aware of the printable resources available on the Teacher Resource Site, but has not had adequate time to explore the full extent of the materials available on the site (90-4-150)
    - Devices
        - Teacher does not assign ST Math as mandatory homework because not all of their kids have access to computers at home (90-5-55)
        - The school has a cart of iPads for every 2 teacher team and next year they are increasing the teams to 3 teacher teams,

but they are not increasing the number of iPad carts available for the teams which may lead to fewer opportunities for students to log onto ST Math in the future (90-2-117)
        - Difficult to access iPads when they become locked down for PARCC testing or if they are being used by other subject areas (90-3-118; 90-2-171/173)
- Student Engagement
    - Difficult for students to stay focused on program for 60 minutes (90-3-33)
    - Students who struggle with math are also struggling in the ST Math program (90-2-84)
    - Students will become stuck on something hard that they cannot pass for several weeks and lose interest in continuing the program (90-5-49)
    - Students get frustrated when they cannot easily get the answers and expect help from the teacher (90-3-90)
    - If students cannot get answer and become frustrated, they will just start hitting random things and hope get it right (90-8-188)
    - Students will memorize patterns until they get to the section they keep getting incorrect and will guess until they get the problem right (90-5-190)
    - Students become distracted when the moving animation is explaining the teaching aspect of the program (90-2-191)
    - Several students refused to work on ST Math during class time (90-5-227)
    - Some students thought the JiJi school visit was elementary (90-3-249)
- Teacher Engagement
    - Intervention Specialist has difficulty finding time in their schedule to figure out how to implement ST Math into their plans (90-6-135)
    - The additional introduction of new curriculum and new content made the integration of ST Math more difficult (90-5-257; 90-7-261; 90-2-262)
    - MIND Educational Consultant unclear in answering when asked if teachers could rearrange the ST Math curriculum (90-2-300)
- Technology Issues
    - Many students complain about computer glitches during the shovel activity (90-1-99/103/108/110)

- Making Connections
  - Initially many students do not make connections between ST Math and their other classwork unless explicitly told (90-5-87/89)
  - Students who don't understand the program don't want to be on it (90-5-95)
  - Students who need more direct guidance from teachers are struggling more with the program (90-5-131)
  - Students are not making the associations to the mistakes they've made with the visuals moving quickly across the screen (90-7-185; 90-5-186)
  - Challenge level beyond level of student mental development (90-2-203; 90-3-206)

Recommendations

- Technology
  - More devices would be helpful for students to have more opportunities to get onto ST Math (90-3-112; 90-7-113)
- Training
  - Intervention specialist would like more exposure to the program and learn new ways to integrate it into their students small group work (90-6-130)
- Programming
  - When a teacher gave their students a survey, the students requested hints or a help button (90-1-182/184; 90-1-317/319)
  - A teacher would like the program to be more customizable to their curriculum (90-7-288/290)
- Student Engagement
  - Student would make connections faster if the program explicitly told them what kind of math concept they are working on (90-5-212; 90-2-213/215; 90-7-221)

APPENDIX

Math Matters: Knowledge Capture Focus Group Reports (3)

Fairfield and Franklin Counties

K-12 (All Districts)

Note: Focus Group Reports are coded to assure participant anonymity. For example, codes appear as a series of numbers and letters (1-9-MS-33) where the first number represents the county, the next number indicates the district, the letters refer to grade level (e.g., elementary school (ES); middle school (MS); high school (HS); and K-12 (K-12-ALL), and the last number in the series signifies the school building.

Math Matters
FG 130 Bullet Point Report
[2-1-ES-27, 2-1-ES-33, 2-1-ES-48, 2-1-MS-50, 2-1-MS-52]

Focus Group Leader: Maria Green Cohen, Monica Hunter
Focus Group Note Taker: Bret Roberts
Focus Group Participants: One third grade teacher, two Math Coaches at an elementary and middle school level respectively, and one Curriculum Specialist/Intervention Specialist working at the middle school level [n=4]

Introduction: One participant knew the Educational Consultant personally and had been introduced to ST Math and was trained by her in December (130-1-24, 178E). Another participant was in October at a district training session (130-2-16E). One participant observed ST Math being used in her building and took the initiative to learn about the program on her own, reaching out to a teacher in the building using ST Math and the Educational Consultant as needed (130-4-26M). Another participant was introduced to ST Math by a teacher using the program, and received training at an October session as well as a classroom visit from the Educational Consultant (130-3-38,184M).

ST Math Usage:

- Establishing a Schedule
  - Students were pulled out for intervention and had 90 minutes of ST Math time weekly over two or three days (130-3-64M)
  - Students had a 45 minute block of time twice a week to use ST Math (130-1-82E)
- ST Math at School
  - ST Math is one of several math programs used at the teacher's discretion
    - First in Math, Study Island, and the textbook supplemental ALEKS (130-4-78M; 130-2-88; 130-2-90E)
  - ST Math was used to supplement visual aids and as a substitute for wordy explanations of math concepts (130-1-80E)
    - Teacher uses ST Math to visually represent algebraic models (130-4-167M)
  - Teacher uses ST Math specifically because it is more structured than other program options and is individualized to the students abilities (130-4-104M)

- ST Math at Home
  - Teachers sent information home with report cards at the end of the school year to facilitate access (130-2-100E)
  - One teacher assigned all of the modules for students to have access to over the summer (130-4-150M)
    - Some students are encouraged to practice at home (130-4-150M)
- Devices
  - Laptops were used for ST Math (130-2-181E)
  - Computer labs were used for ST Math time when available (130-4-26M; 130-3-64M; 130-1-80E)
  - Students were using a limited number of computers in the classroom (130-2-90E)
- Incentives
  - Stickers won by students were a source of pride and interest for students (130-2-88E)

Achievements:

- Student Engagement
  - ST Math is successful with special education and ESL students
    - ST Math was an opportunity for students with no English language skills to participate in class activity (130-1-152E)
    - ST Math provided an opportunity for special education students to succeed (130-4-104M)
  - ST Math was used to replace other math programs that students were finding challenging to use and understand (130-4-78M)
  - Through sharing and watching peers, students have spread usage through the schools (130-2-88, 90E; 130-4-104M)
  - Students were challenged by ST Math in a way that encouraged perseverance (130-3-169M)
    - Students that used ST Math were able to learn concepts independent of the class instructor (130-3-169M; 130-1-170E)
  - ST Math caused positive behavioral changes in students with disciplinary problems (130-2-173E; 130-3-200M)
  - ST Math helps students develop a deep understanding of concepts (130-4-159M)
    - ST Math more successful than previous methods for teaching younger students fractions (130-1-80E)

    - Students want to continue using the program in the future (130-4-100M)
- Teacher Engagement
    - Experienced teacher is working to engage and encourage other teachers to use ST Math and facilitating access to Mind Matters (130-4-30 187M; 130-3-38, 217M)
    - Teachers appreciate that ST Math is able to provide real-time feedback to students using the program instead of requiring students to wait for the instructor to provide feedback (130-2-171,173E)
        - Teacher enjoyed seeing students understand concepts learned through ST Math (130-1-170E)
    - ST Math is useful to teachers whose specialty is not Math (130-4-108M)
    - ST Math helps teachers keep students on task and focused on relevant subjects (130-4-108M)
    - Teacher likes the function of ST Math that alerts them when a student is struggling (130-1-120E)
    - A teacher who is also a parent has her children using ST Math at home (130-1-269E)
    - Teacher appreciates list of Facilitating Questions and uses them at home when her own children are engaged in activities (130-3-122M)
    - Teacher buy in
        - Teachers are encouraged by initial success and want to continue using ST Math in the future (130-3-235M; 130-4-253M)
        - Teachers sent home notes with report cards so their students could continue working with ST Math over the summer (130-2-100E)
        - Participant who works in two buildings observed different groups using ST Math
            - One building had ESL usage and no staff buy in, the other had staff buy in and no ESL usage (130-2-191E)
- Opportunities for Communication
    - Teachers used their personal relationships to make connections with others to implement ST Math
        - Encouraging other teachers to use ST Math in their buildings (130-2-179E)

        - Connections with MIND Research staff helped participants gain additional knowledge for using ST Math with students (130-1-82, 248E)
        - Shared room with ESL teacher resulted in the Math teacher being invited to a training session (130-3-186M)
    - Teacher views their new position next year as an opportunity to spread ST Math usage (130-3-235M)
- Sharing Strategies
    - After working with the Educational Consultant, one teacher showed another how to align ST Math with their curriculum (130-2-145E)
    - Teacher encouraged a special education tutor to use the Facilitating Questions provided during ST Math training while working with students (130-3-122M)
- Making Connections
    - Program is being used during intervention period to assist individual students and provide structure for instruction (130-4-78M)
    - Educational Consultant showed a teacher how to align ST Math with their class curriculum (130-2-145E)
- Moving Forward
    - Efforts have been made to keep ST Math usage up in schools (130-2-20E1; 130-4-132, 202M)
    - One participant informed their principal in their new school that they will be using ST Math (130-2-204/206M)
    - Teacher wants to spread usage of ST Math beyond [Special Population] students in the district (130-4-239M)
    - Teacher moving to new building will use ST Math to supplement other resources while mentoring other teachers (130-3-272M)

Challenges:

- Training
    - Teachers in the district had varying levels of training and comfort when using the technology required (130-2-193E; 130-2-242E)
        - Participant assisted teachers using the computer lab getting students started in ST Math (130-2-90E)
    - District no longer provides professional development for math (130-1-218E, 220E; 130-3-228M; 130-1-229E)

    - There is little time to introduce new and incoming teachers to ST Math before next school year (130-2-240E)
    - Many teachers were unaware that ST Math was available to them and that MIND can provide training (139-2-179E)
    - Student using ST Math told teacher unfamiliar with the program that she preferred the "ST Math way" to the way the subject was being taught in class (130-3-140M)
- Access to Resources
    - Lack of Time
        - Teachers don't have the time to research and explore materials on their own (130-4-129, 139M)
    - Materials [manual etc.]
        - One teacher was never formally trained and so did not have access to MIND training and implementation materials such as Facilitating Questions while using ST Math (130-4-123M)
    - Access to Devices
        - Access to computers due to PARCC testing was limited (130-3-64M; 130-1-80E; 130-4-182M)
        - Teacher was resistant to use and share technology the building received for using ST Math (130-2-179, 183E)
        - In one school the computer lab was a shared space with a music class that met three times a week (130-2-90E)
    - A school did not have a functioning computer lab and needed to be set up (130-2-88E)
- Student Engagement
    - Teacher was cautioned not to add too many non [Special Population] students en masse to ST Math for fear of losing the grant due to low usage reporting (130-4-239M)
    - Students that connect with ST Math and want to continue using it may lose that option when they transfer to a new school without a [Special Population] program and ST Math (130-2-240E)
- District Engagement
    - Administrators did not know ST Math was available to teachers in their buildings (130-3-1; 84M130-2-206, 208E)
        - District curriculum department is not involved with implementation (130-3-217M)
    - District was receiving usage reports from other programs showing a drop-off and began pushing teachers to use those instead of ST Math (130-2-90E, 197E; 130-3-198,200M)

- Competing Initiatives
    - Different schools in the district were piloting different textbooks with at least one having an online component (130-3-68M; 130-4-74M)
    - Some schools with an ESL program focused more on language-based instruction over math (130-1-180E; 130-2-181M)
    - Other math programs purchased by district were more consistent in reporting data to administrators (130-2-197E, 130-4-239M)
- Teacher Buy-in
    - Some teachers want their students to learn the way they themselves learned mathematical concepts (130-3-140)
    - Teachers are worried that their administrators won't support them or don't know what resources are available in the district (130-3-200M; 130-2-201E)
    - Teacher buy-in was discouraged by competing math programs and levels of comfort with technology (130-2-90E)
    - Many teachers are unaware of the program being present in the district (130-2-179, 242E)
        - Opportunities for networking and sharing information are limited (130-2-221E)
    - Some teachers were uncomfortable with using technology (130-2-88, 193E)
    - ESL teachers are more language based and see limited value in spending time on math (130-1-180E)
    - Teacher who received devices for ST Math wanted to put off handing them out until next year (130-2-179E)
- Technology Issues
    - One school's devices are fifteen years old and did not always work when needed (130-2-88E)
- Passwords
    - Some students were concerned with ability to remember their password (130-2-95E)
    - Adults were concerned and struggled with the password process (130-3-98, 209M)
- Making Connections
    - Students and teachers had varying abilities of using ST Math and being able to communicate with one another (130-4-139M)
        - Teachers did not always have the time or know-how to teach using ST Math methods (130-4-139M)

Recommendations:

- Programming
  - It would be helpful to have summaries attached to modules for teachers to reference (130-4-139M)
- Technology
  - Participant would like to share information about ST Math and learn details on purchasing the program for buildings not in the Math Matters grant (130-2-237E)
- Training
  - Bring the schools in the district that have ST Math together so that they can discuss best practices and share information (130-2-216E)

Math Matters
FG 140 Bullet Point Report
[1-2-ES-12; 1-5-ALL-ALL; 2-6-MS-ALL; 1-3-ALL-ALL; 1-4-ES-21; 2-1-ES-ALL; 2-4-ES-ALL; 1-4-ES-21; 2-3-ALL-ALL; 1-1-ES-ALL]

Focus Group Leader: Monica Hunter
Focus Group Note Taker: Rachel Orsborn
Focus Group Participants: Elementary School Teachers (n=7), Middle School Teacher (n=1), High School Teacher (n=1), Instructional Coach (n=1), Intervention Specialist (n=1) & Media Aide (n=1)

Introduction: The focus group was conducted during day two of the three-day Train the Trainer Certification course (T3). Many participants were asked to attend T3 by school administration (140-5-21; 140-3-25), the [1-5-ALL-ALL] (140-2-19; 140-9-32), and by curriculum coordinators (140-4-20; 140-11-30; 140-8-33). In a show of hands eight of the participants indicated that they were trained during the school year (140-40), with one district only receiving online training (140-10-152).

ST Math Usage:

- ST Math at School
  - In a show of hands 70% of the participants indicated that they have used the program in the classroom (140-42)
  - Participant uses program on Smart Board for whole group instruction in classroom where students access to technology is restricted (140-2-133/137)
- ST Math at Home
  - Participants assigned ST Math as homework when they could not meet 90 minutes per week expectation in the classroom (140-4-81)
- Devices
  - Devices were purchased with grant money to expand access to technology (140-10-77)
- Incentives
  - Participant had students create construction paper JiJi and added balloons for every 10% completed (140-5-94)
  - Use of progress chart from Teacher Resource Site created competition among classes (140-2-87/91)

Achievements:

- Student Engagement
    - Lower-level students embraced visual aspect of program (140-1-70; 140-4-84)
    - Gifted students embraced the challenge (140-4-84)
    - Student dressed as JiJi for school dance (140-3-98)
    - Struggling student loves working on ST Math (140-3-101)
    - Ownership
        - Classroom produced video for ST Math competition and students fought over who would get to wear JiJi costume (140-1-102)
        - Teacher-purchased JiJi costume worn to announce top class in ST Math progression on school announcements (140-1-102)
        - Students wrote song about ST Math that was heard outside of school (140-1-102)
    - Special education student helping others with ST Math (140-1-291)
    - Participant was able to set special education students at appropriate grade levels in ST Math (140-1-291)
- Teacher Engagement
    - Participant used ST Math and Eureka program interchangeably to compliment math curriculum (140-1-70)
    - Participant sees data reports as a good method to review individual student progress (140-6-233)
- Making Connections
    - Program helps students visually understand fractions (140-1-70)
    - ST Math prepares students for rigor and problem solving required for PARCC testing and common core (140-11-71)
- Moving Forward
    - One participant has made connections in other districts that they plan to build on (140-7-188)
    - Participant will be visiting schools that do not have trainers among various districts in the [1-5-ALL-ALL] (140-2-64)
    - One district plans to hold a refresher course for staff at the beginning of the school year (140-4-228; 140-1-49)
    - Participant plans to train students to work with younger grades (140-1-189)
    - Participant will train other classroom teachers during the school day (140-11-229)

- District is moving towards using ST Math to compliment teaching (140-11-53)
  - Initially introduced as a supplemental tool (140-11-53)
- Participant plans to create a video or provide a condensed version of ST Math training to share with non-math staff members who work with students on ST Math (140-7-75)
- Participant envisions sharing implementation strategies and experiences of student growth with fellow teachers to increase buy-in (140-10-77)
- Participant plans to train incoming math teachers on program to increase buy-in (140-3-56)
- Teachers will come from other buildings in the district to meet with Trainers (140-2-64)
- School hopes to start puzzle club to motivate student progression (140-4-86)
- School hopes to motivate teachers and hold them accountable by posting progress by classroom (140-6-233)
- Participant plans to send mass emails to communicate across district about ST Math (140-9-193; 140-10-194; 140-1-199)

Challenges:

- Training
  - School only offering one year of PD for ST Math (140-1-15)
  - One participant did not want to attend T3 training (140-8-38)
  - Math coach not trained on program because it was introduced to the district as ELL/Special Education resource (140-8-54)
  - Some schools did not complete training until May (140-7-73)
  - Math enrichment period staffed by non-math staff who are not trained on the program (140-7-73)
  - Participant did not like the long gaps in training (140-1-141)
    - Participant had unaddressed questions and did not have opportunity to figure things out (140-1-141)
  - Training teachers later in the year conflicts with required testing (140-11-150)
  - Teachers not trained for ST Math did not understand how to ask facilitating questions (140-9-249/251)
  - When asked about blended learning, teachers agree they know what it is but few are able to provide definitions (140-255/258)
- Access to Resources

    - Lack of Time
        - Difficulty fitting ST Math into classroom time (140-10-77; 140-5-85)
        - Overwhelming to introduce program with amount of testing (140-11-150; 140-1-183)
        - No time for ST Math during testing (140-6-172; 140-1-185)
        - Participant anticipates lack of time to address every teacher's problems with the program and plans to prioritize problems (140-11-220)
    - Access to Devices
        - School ordered iPad minis but students who are visually impaired or have mental disabilities have difficulty with the screen size (140-9-123)
        - Building's only computer lab shut down in January for the remainder of the year (140-11-165)
        - Chromebooks have arrived at district office and have not been set up for use (140-11-165)
- Student Engagement
    - Higher-level students dreaded working on ST Math towards end of the year (140-5-83)
    - Gifted student became bored with multiplication content when they aced the pre-test but could not skip the level (140-11-294)
    - Higher-level student was not mathematically challenged until reaching Challenge Levels in ST Math (140-1-291)
    - Middle-level students became bored with the program because they wanted an immediate answer (140-4-84)
    - Students at one participant's center are not allowed to work on technology (140-2-131/133)
    - Low scores on post-tests do not prevent students from progressing through the program where they might need to spend more time on particular concepts (140-11-229)
    - Students would hit arrow to go back and have to start activity over (140-5-246)
        - Students would lose motivation (140-5-248)
- Competing Initiatives
    - District implemented new curriculum framework same year ST Math was introduced and had difficulty meeting 90 minutes per week expectation on ST Math (140-4-81)
- Teacher Buy-in

    - District did not get program up and running until November (140-4-68)
    - Some classroom technology could not support program (140-10-77)
    - Teacher buy-in lost when later online training modules were not mandatory (140-10-152)
        - ST Math was not designated a priority by administration (140-10-152)
- Opportunities for Communication
    - Teachers unsure if the program is expanding to other buildings or past ELL/special education departments (140-8-54)
    - Administration did not inform teachers that Educational Consultants would be in their school for classroom modeling in a timely manner (140-1-141)
    - Participant will not send mass emails about ST Math because teachers do not read emails and become frustrated when they're not directly told about changes (140-4-197/200)
    - Participant not interested in reaching out to others unless approached by teachers with questions (140-9-219)
- Technology Issues
    - K-1 Classes have to go to computer lab to get on ST Math (140-10-77)
    - Anticipating difficulties with rostering for the coming year (140-1-189; 140-1-49)
    - Program worked better on old computers and does not work well on Chrome books (140-1-113)
    - Schools do not have reliable Wi-Fi (140-11-167; 140-6-172)
- Programming
    - Data Reports format difficult to interpret (140-6-233)
    - Data Reports are not printer friendly (140-11-234; 140-6-235)
    - Program would load slowly during log-in (140-1-109)
    - Games freeze during play (140-1-109)
    - Students would log out properly and game would not save progress (140-1-109)
    - Program displayed on mini iPad does not format well with Smart Board technology (140-9-123)
- Moving Forward
    - Teachers will not encourage colleagues to complete trainer certifications (140-4-226)

Recommendations:

- Training
  - Completion of all online training modules should be made mandatory (140-10-152)
  - Frontload training material at the beginning of the year to avoid conflicts with testing (140-11-150)
  - Additional training on watching for alerts and working with reports (140-11-229)
- Programming
  - Students should have ability to move forward if they pass the pretests (140-11-294)

Math Matters
FG 150 Bullet Point Report
[2-3-ES-MS-ALL, 2-1-K-12-ALL, 2-2-MS-63, 2-4-ES-ALL, 1-2-ES-12, 1-3-ES-MS-ALL, 2-5-MS-ALL, 1-3-ES-MS-ALL, 1-5-ALL-ALL]

Focus Group Leader: Meghen Matta
Focus Group Note Taker: Kayla Galloway
Focus Group Participants: Computer Applications Teacher [n=1], Technology Coach [n=1] District Math Coach K-5 [n=1], Math Instructional Coach District [n=2], Media Aide [n=1], 6th Grade Math Teacher [n=2], 5th Grade Math Coach and Teacher [n=1], Curriculum Coordinator [n=1]

Introduction: The focus group was conducted during day two of the three-day Train the Trainer Certification course (T3). The majority of the participants were invited or requested by their administrators to attend T3 and were excited about the opportunity (150-2-29, 150-3-30, 150-4-31). A few of the participants volunteered to attend T3 (150-1-27, 150-7-28, 150-6-33). Some of the participants have already engaged in training others in their building to use ST Math through password training and fostering student and teacher buy-in early on (150-7-158).

ST Math Usage:

- ST Math at School
  - Participants' responsibilities include training new teachers and helping teachers already familiar with the program advance in using ST Math (150-10-57, 150-4-50)
  - Earlier focus was implementation and now the focus is reviewing and using data reports (150-9-62)
  - Computer teacher got the students logged on and through password training during computer class time (150-1-76)
    - Once the teachers realized students could work independently they started scheduling time in the computer lab to do ST Math
  - Used in small groups for centers and for students working independently in a whole class setting (150-7-81)
  - Classroom iPads used for independent learning stations and also daily for RTI (150-2-82)
  - One participant prefers to do ST Math in a whole group setting with students working independently (150-10-90)

    - One building has guided math time where students can do ST Math on rotation (150-10-90)
    - One instructional coach uses the progress chart for the whole school (150-7-283)
        - Leaders are named on video announcements
- Devices
    - One district is getting more tablets and Chromebooks (150-1-76)
    - One building has a computer lab with approximately 30 computers in a building with about 600 students (150-4-83)
    - One district does not have computer labs and uses device carts (150-5-89)
        - Usually one cart per grade level in a building with additional floating carts
    - One building has a computer lab teachers can sign up to use (150-10-90)
        - The building also has iPads in the classroom and on carts
            - Computers must be shared for them to do ST Math as a group
    - Certain grades were made a priority in scheduling lab time (150-1-144)
    - One school received 30 Chromebooks in January but has 1100 students and obsolete classroom computers (150-1-148)
- Incentives
    - One building has a stuffed JiJi that goes from classroom to classroom depending on the progress that is made for the week (150-10-284)
        - Students motivated to learn and improve

Achievements:

- Student Engagement
    - Student buy-in very quickly forced teachers to buy-in
    - Students gained confidence and perseverance (150-9-64/66)
        - Students who used to not like math really like it now because they see it in a different way (150-10-67)
    - Students are taking ownership and are accountable for their work (150-7-68)
        - Students track their own progress
    - Students developed problem solving skills and think more deeply about math (150-7-68, 150-5-72)

    - Students motivated by receiving JiJi postcards (150-7-287)
- Teacher Engagement
    - Most of the participants volunteered to attend T3 (150-1-27, 150-7-28, 150-6-33)
    - One district has all 12 buildings fully using ST Math (150-8-56)
    - Teachers as facilitators increases student confidence (150-7-68)
        - The conceptual ideas is very powerful for students (150-4-71)
    - ST Math preferred over other skill driven math programs because it goes deeper than just the basic skills (150-5-72)
    - In one building teachers are embracing the idea of blended learning in the classroom as part of their instructional strategies (150-7-81)
    - ST Math is great for differentiation on teacher evaluation rubric (150-10-258)
    - Teachers like that ST Math allows students to have a freedom of thinking because there are multiple ways to solve a puzzle (150-10-265)
        - Teachers learn more about students and how they think
    - Teachers like how students can work at their own pace (150-7-270)
- Administration Engagement
    - Teacher buy-in in one building was strong because administrator asked for teacher input before implementation (150-4-149)
    - In one district the superintendent pushed ST Math in the schools (150-7-153)
        - Program really took off because of his support and now teachers and students love it
- Opportunities for Communication
    - Participants appreciate accessibility of MIND Research staff (150-10-219/225/227, 150-7-224)
        - Tech support hotline is responsive
        - Teachers were quickly informed about tech issues
        - Educational Consultant has been a great resource (150-5-232)
- Parent Engagement
    - Parents emailing teachers asking why their students are not doing ST Math pushed teachers to use the program (150-9-157)
- Moving Forward

- One participant's role for the coming year is to discuss ST Math at staff meetings and provide ongoing PD on how to monitor and use ST Math more efficiently in the classroom (150-7-53)
- Participants plan on providing PD to their fellow teachers (150-1-45, 150-2-46, 150-2-240)
- Many will be providing training to new teachers (150-4-50, 150-5-51)
- Two participants plans to train grade level coordinators in each school building (150-8-56, 150-10-57)
- One district plans on introducing ST Math at the middle school level this upcoming school year (150-8-56)
- One district is training non-math teachers to be facilitators for intervention and enrichment time (150-8-56)
    - 80% of staff are not math teachers
- One district's goal is to make more syllabus progress this year for each classroom and student (150-10-57)
- One district is not allowing teachers to purchase any other math programs (150-10-150)
- Participant plans to have all students track their own progress on a daily basis (150-10-162)
    - Fosters buy-in from students and teachers
    - Helps with parent teacher conferences
- One district is voluntarily going through the Ohio Improvement Process and monitoring progress in ST Math is a district leader team goal (150-8-257)
- One participant is mostly going to be focusing on data (150-3-282)
    - Will be reporting it to the state and to the teachers
- One of the participants' school is going to start this year by having students list 10 personal goals (150-4-308)
    - When goals are reached they get a sticker to track the progress

Challenges:

- Training
    - In addition to teaching, one participant is responsible for training the teachers in her district because the second teacher did not come to T3 (150-9-62)
        - 11 elementary, two middle schools, two high schools

    - One district paid teachers to complete online modules (150-10-247/253)
        - Another district gets district CEU's for their PD (150-1-248)
    - PD was too spread out during the past school year (150-1-245)
        - It would have been helpful to have the Educational Consultant onsite for rostering process (150-7-246)
- Access to Resources
    - Lack of Time
        - Teachers felt they didn't have enough time to implement ST Math (150-10-92)
    - Access to Devices
        - Lack of technology in one district made access to ST Math difficult for all teachers (150-1-135)
        - Equitable method to share carts would have been helpful (150-5-89)
        - Students lack Wi-Fi access at home (150-7-106)
        - Teacher buy-in has become a challenge in one district because of antiquated technology (150-1-144)
- Student Engagement
    - One participant who works with ESL high school students found biggest challenge was a lack of student buy-in (150-3-163)
        - Some students could be up to 22 years old (150-3-167)
        - Older students viewed ST Math as childish (150-3-169)
        - Getting them through the password training is difficult (150-3-169)
- Competing Initiatives
    - One district was implementing three other programs last year along with ST Math (150-7-153)
- Teacher Buy-in
    - One middle school has access to the program for 6th through 8th grade, but only 6th and 7th grades are using it (150-4-50)
    - Hard for teachers to be facilitators (150-10-69)
    - Teachers in one building were uncomfortable using laptop carts (150-7-81)
    - Teachers frustrated because district bandwidth issues waste of instructional time (150-5-97)
    - One district has had teachers refuse to use ST Math (150-1-142)

    - Buy-in was impeded early on in one district because they were told to do this program through the [1-5-ALL-ALL] and teachers have had negative experiences (150-7-151/153)
    - Teachers were reluctant to buy into the program without training (150-1-245)
- Technology Issues
    - Three districts have had a lot of connectivity issues (150-5-97, 150-7-98, 150-1-116)
        - The brand of Chromebooks received through the grant often lose connectivity (150-7-117)
    - One participant's building is oldest in the district with slowest Internet yet has the most devices (150-7-98)
        - Building was forced the to update and open up their bandwidth

Recommendations:

- Programming
    - ST Math was originally designed for elementary school students and high school was added later (150-3-169)
        - Participant recommends a different version for high school (150-3-171/183)
    - One participant believes that before and after school PD's and staff meetings do not work because of short time period (150-2-240)
    - One participant suggest teachers should learn about data reports early on in the school year (150-7-246)
- Teacher Engagement
    - Foster buy-in through soliciting teacher opinion on the program (150-4-149)

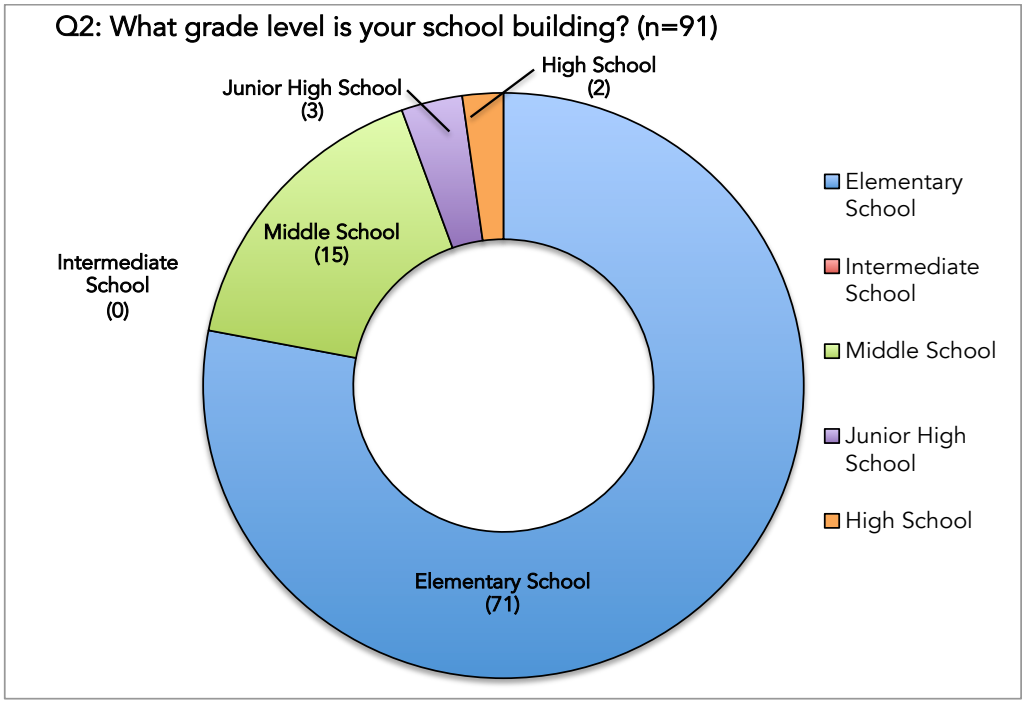
ST Math Teacher Survey Preliminary Report

This document provides a preliminary look at the survey responses for the ST Math Teacher survey. The survey was drafted early May 2015 and was circulated for review and revision by the ST Math implementation team and Fairfield County ESC. The final version was launched on Friday, May 15, 2015, distributed via email invitation by MIND Research to teachers in the nine participating Math Matters school districts and the Fairfield County ESC. The survey was administered online on SurveyMethods.com© and remained open until Friday, June 5, 2015. Two additional versions of the survey were opened from June 9, 2015 to June 19, 2015 to participants in Tracks A and B of the June Academy hosted by the Fairfield County ESC. The survey had (91) total respondents.

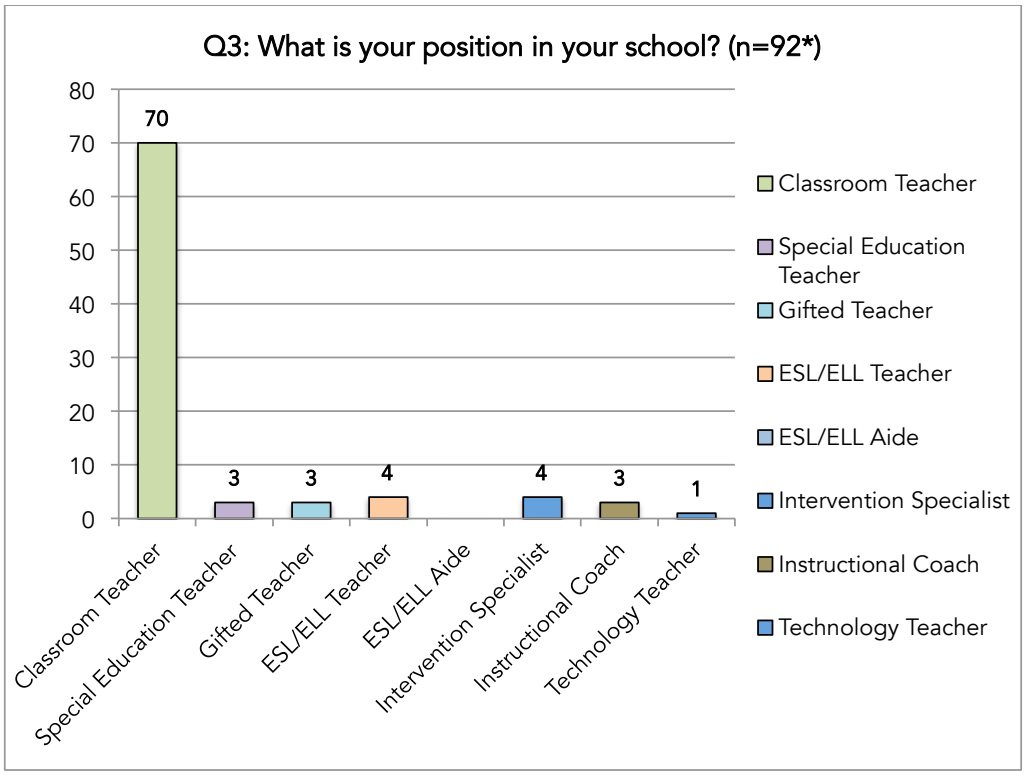
This report provides graphic charts for Qs 2-7, 9-12, 14-15, and 17-22. Preliminary analysis of open-ended questions 8, 13, and 16 are presented in a table format and an in-depth analysis will be incorporated into the final October 30, 2015 report.

Question 1: Consent to participate in anonymous survey.
(n=91 respondents)

Question 2: What grade level is your school building?
(n=91 respondents)



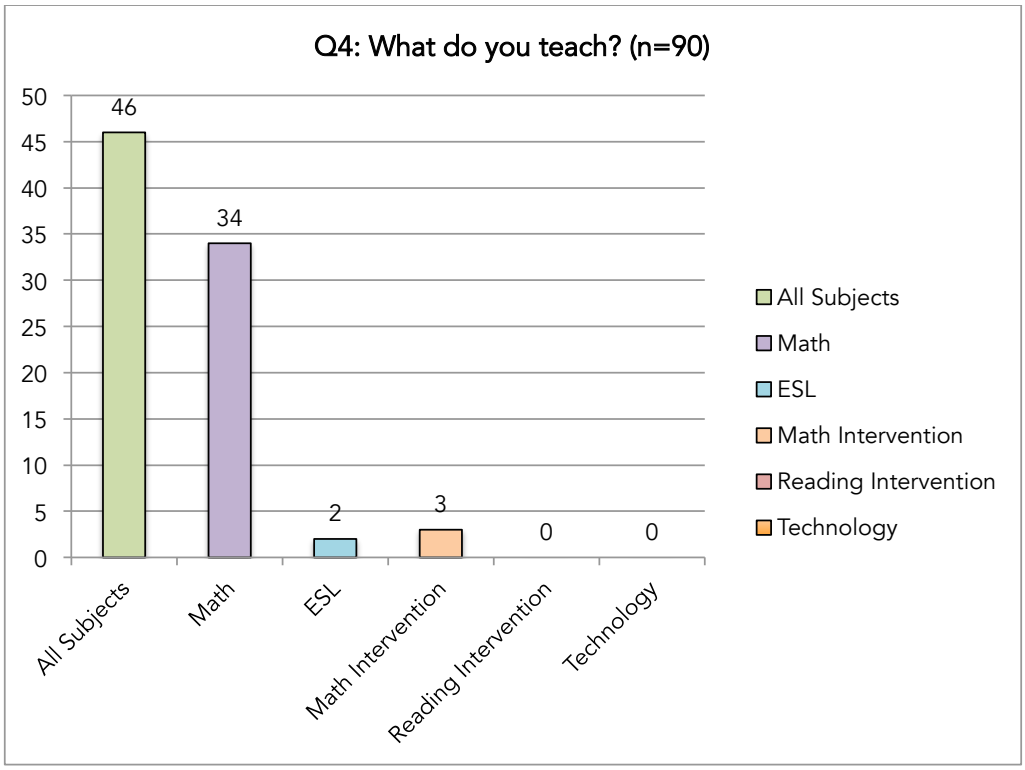
Question 3: What is your position in your school building?
(n=91 respondents)



*One Respondent listed two positions in the "if other, please describe" section of the survey.

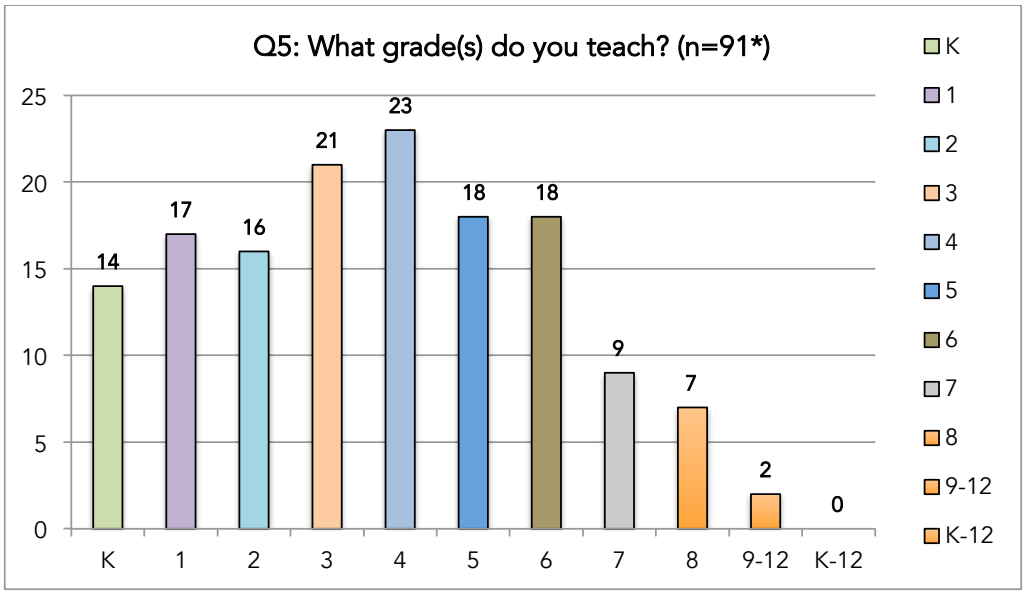
If other, please describe (n=4):	Number of Responses
Special Education	1
Library/Media	1
Title 1 Math Teacher	1
Instructional Support	1

Question 4: What do you teach?
(n=90 respondents)



If other, please describe (n=5):	Number of Responses
Library/ Computer Lab	1
Math/Science	1
Multiple content areas with technology	1
Reading	1
Instructional support all subjects	1

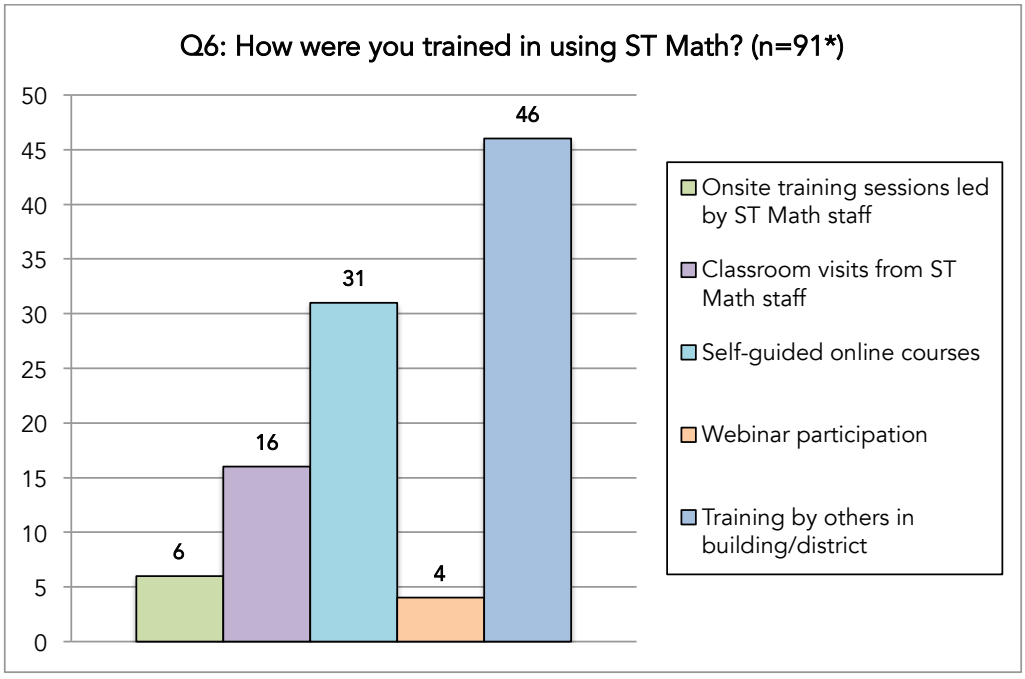
Question 5: What grade(s) do you teach?
(n=91 respondents)



*Respondents were asked to check all that apply.

If other, please describe (n=2):	Number of Responses
K-5 Math coach	1
Work with K-6 teachers and students	1

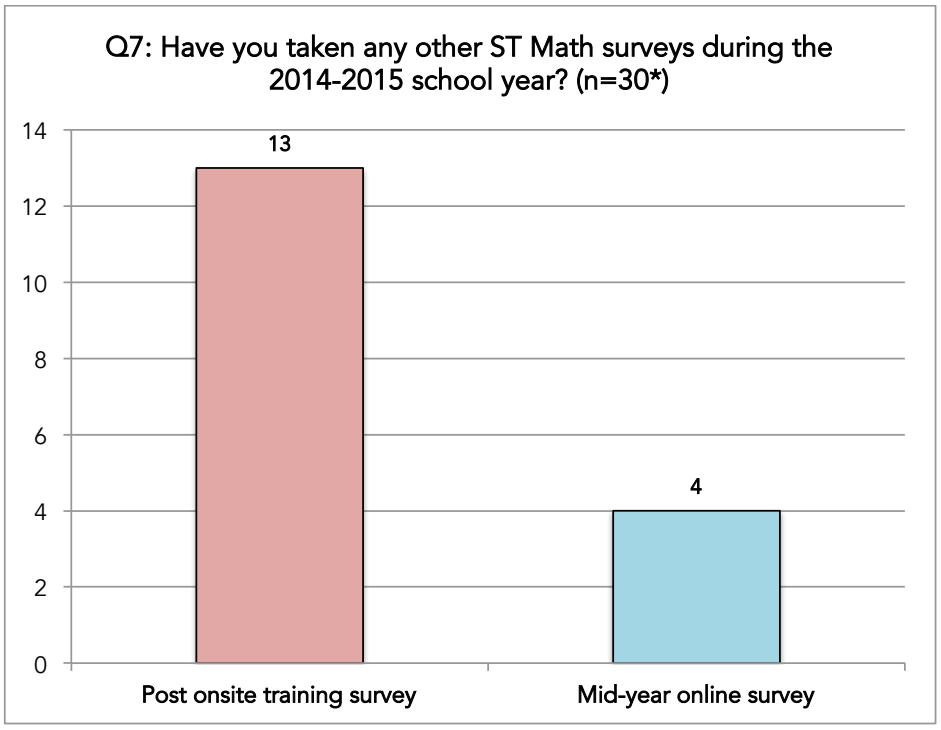
Question 6: How were you trained in using ST Math?
(n=91 respondents)



*Respondents were asked to check all that apply.

If other, please describe (n=6):	Number of Responses
Self guided/taught	2
One-to-one ST Math training	1
Help Desk	1
Staff meeting with ST Math staff	1
Administrator	1

Question 7: Have you taken any other ST Math surveys during the 2014-2015 school year?
(n=30 respondents)



*Respondents were asked to check all that apply.

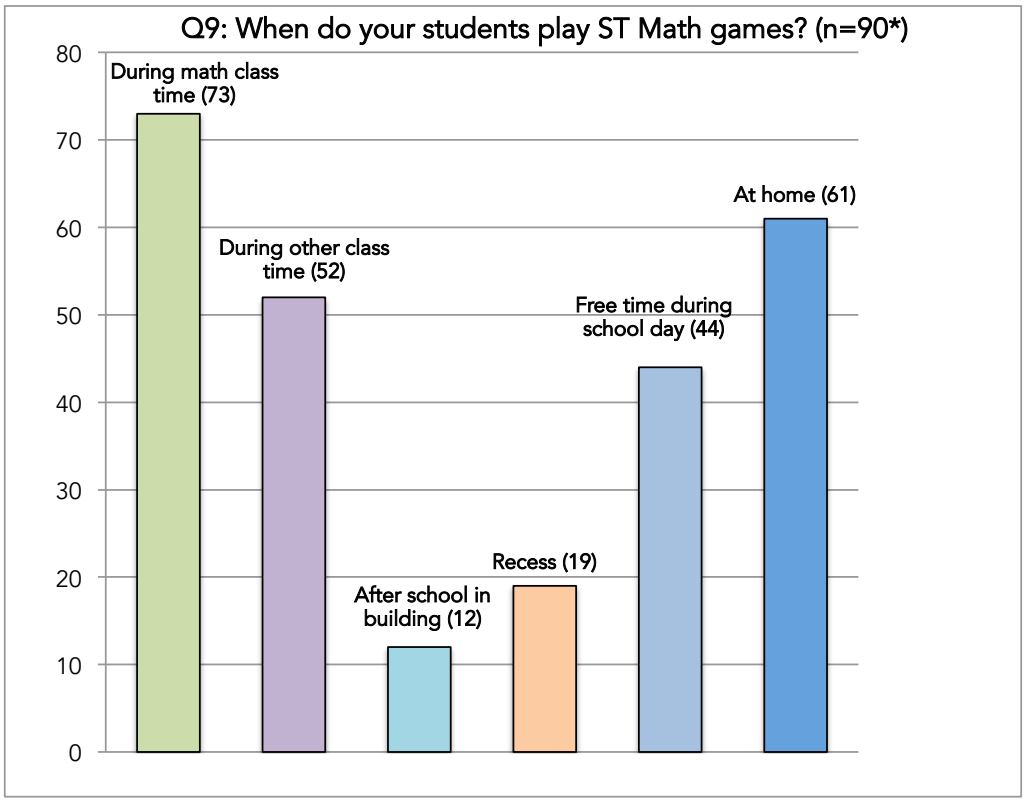
Other please describe (n=15):	Number of Responses
No	4
Online Training Module survey	3
Unsure	3
This survey	1
Plan to in June	1

Question 8: What were your top three challenges in your initial implementation of ST Math in your classroom? (n=83 respondents)

Themes	Sub-themes	ES	MS	Jr HS	HS
Technology	Internet unable to support ST Math	✓	✓	✓	
	Not enough devices available	✓	✓	✓	
	Devices unable to support ST Math	✓	✓		✓
	Activation code issues	✓			✓
	Student log in/log out issues	✓	✓		
	Preparing devices to use ST Math	✓			
	Not enough devices available due to testing	✓			
Time	Finding time to implement ST Math	✓	✓	✓	
	Tracking student time on ST Math	✓	✓	✓	
	Rostering too time consuming		✓	✓	
	Password training too time consuming	✓		✓	
	Scheduling intervention students	✓	✓		
	Working with students during rotation		✓		
	Finding time for teacher to explore ST Math		✓		
	Unable to meet recommended time	✓			
Familiarity with program	Finding and interpreting data reports	✓	✓	✓	✓
	Teacher role as facilitator	✓	✓		
	Helping stuck students	✓	✓		
	Aligning homework with classroom objectives	✓	✓		
	Understanding the program	✓	✓		
	Working with students at different levels	✓	✓		
	Specific game [stretch-a-block]		✓		
	Creating/grading student assignments		✓		
	Dealing with student alerts	✓			
	Getting students familiar with the program	✓			
	Using the manual	✓			
	Answering student and parent questions	✓			
	Student rostering and password training	✓			
	Inadequate training	✓			
	Sharing information	✓			
	Connecting class content to program	✓			
Student Engagement	Student buy in	✓	✓	✓	
	Access at home/low usage at home	✓	✓		
	Keeping students focused and motivated	✓	✓		
	Student frustration	✓	✓		
	Remembering password	✓			
	Preparing students to think/struggle	✓			
	Student population too large	✓			

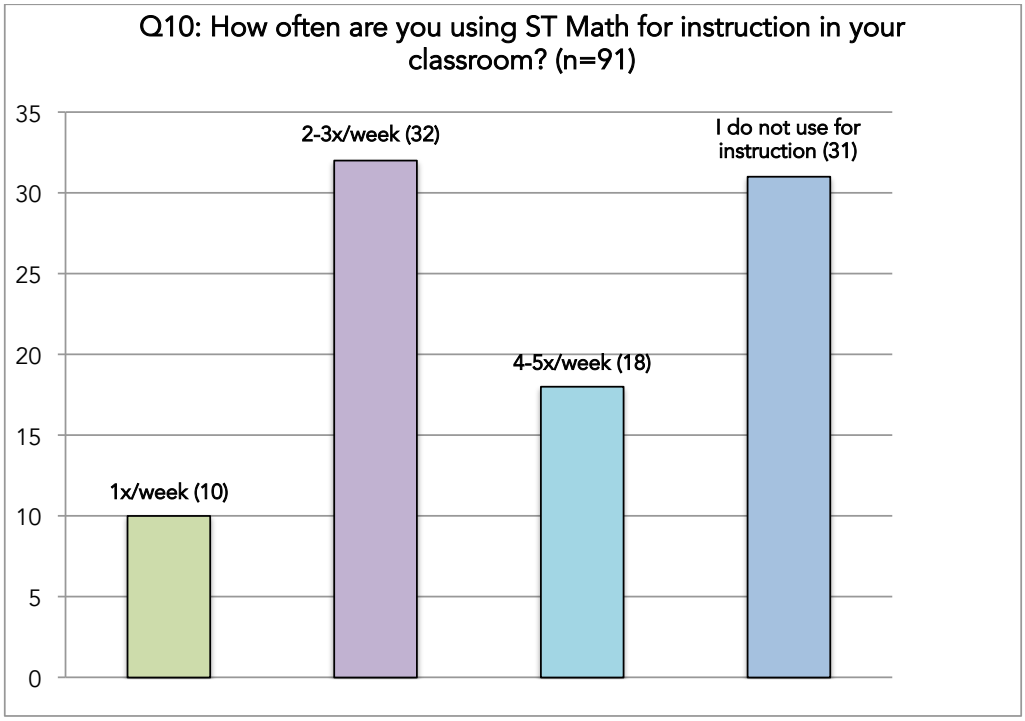
ES=Elementary School; MS=Middle School; Jr HS=Junior High School; HS=High School

Question 9: When do your students play ST Math games?
(n=90 respondents)

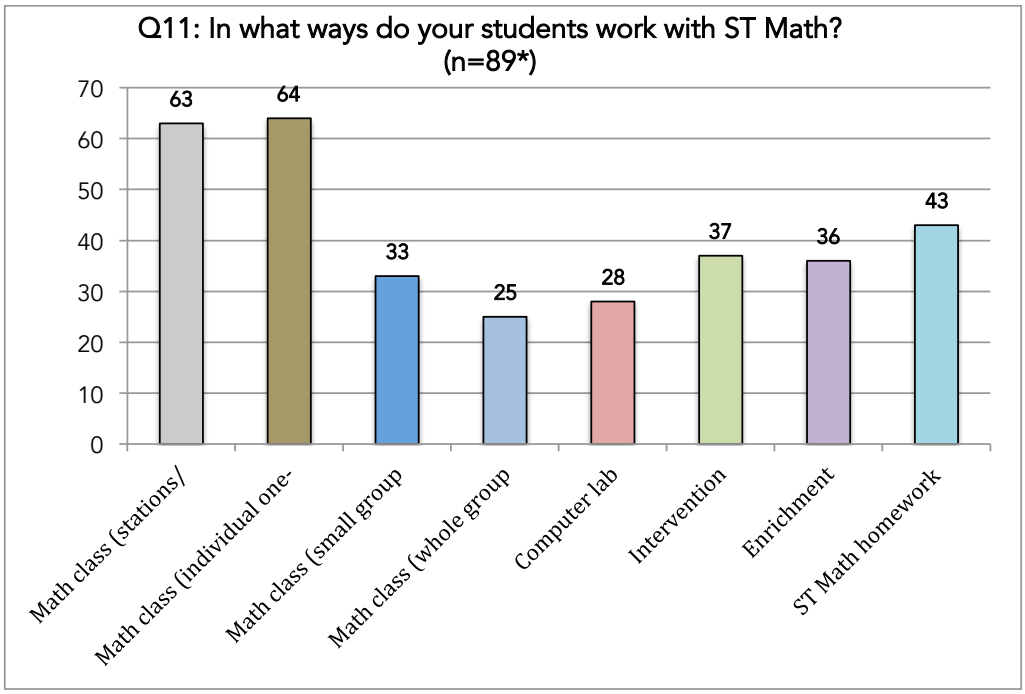


*Respondents were asked to check all that apply.

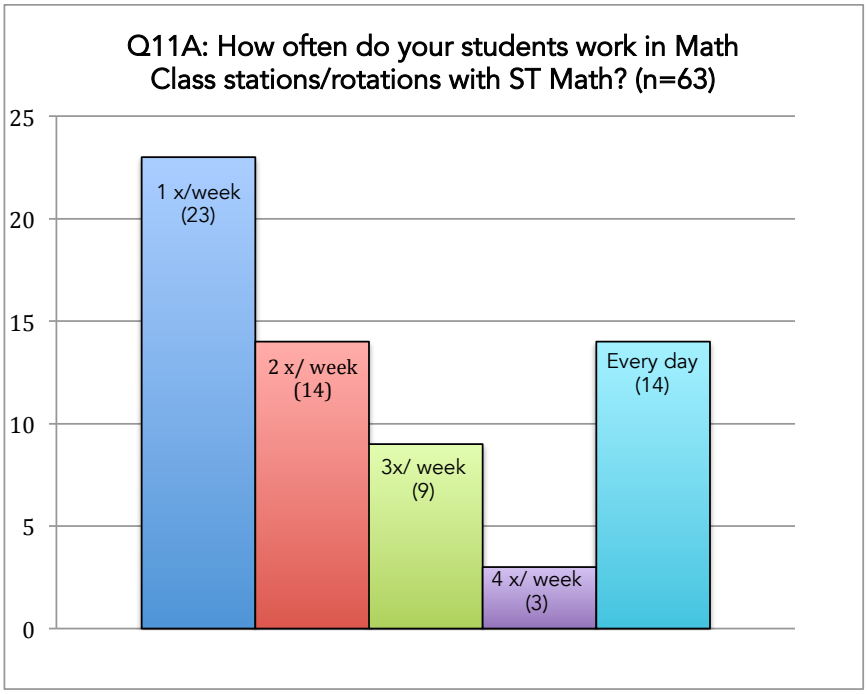
Question 10: How often are you using ST Math for instruction in your classroom?
(n=91 respondents)

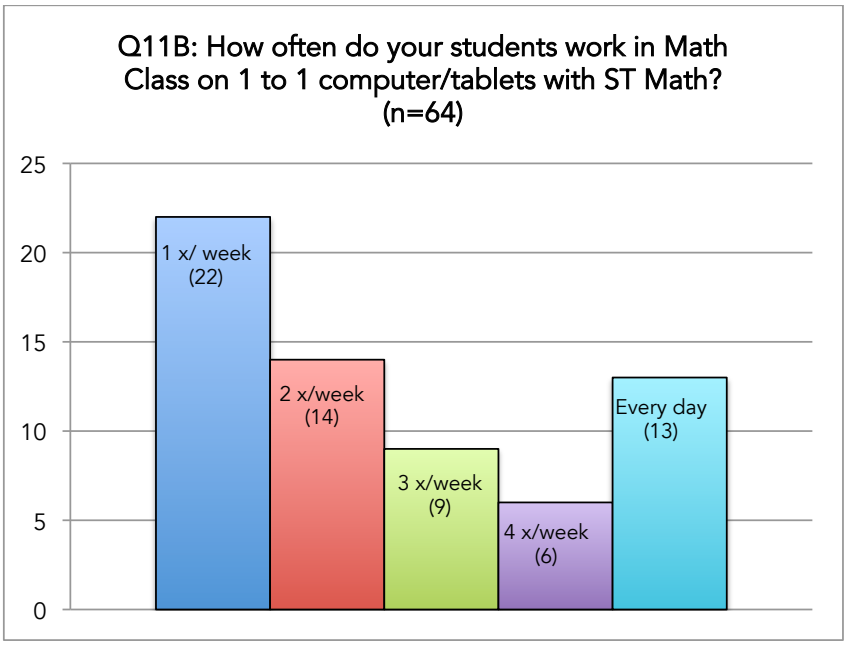


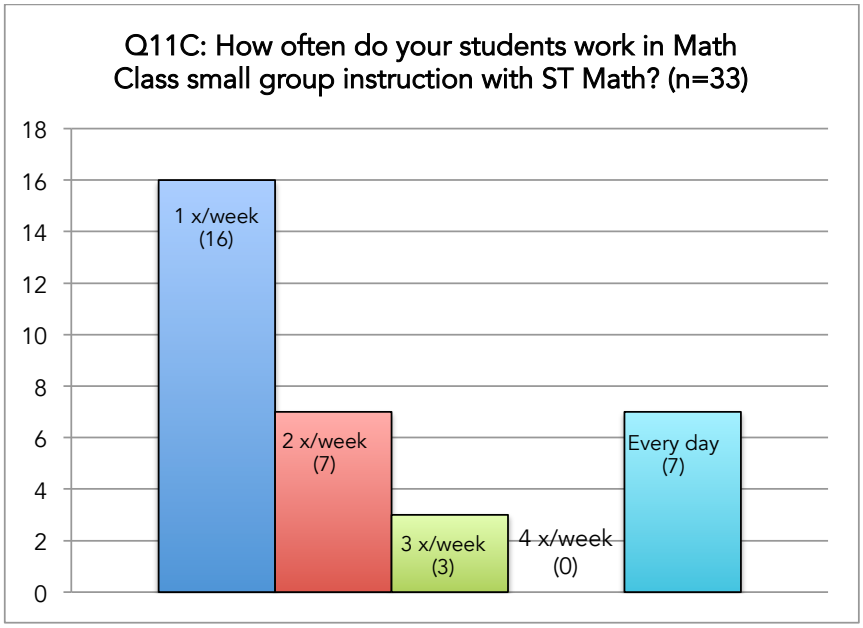
Question 11: How often and in what ways do your students work with ST Math? (n=89 respondents)

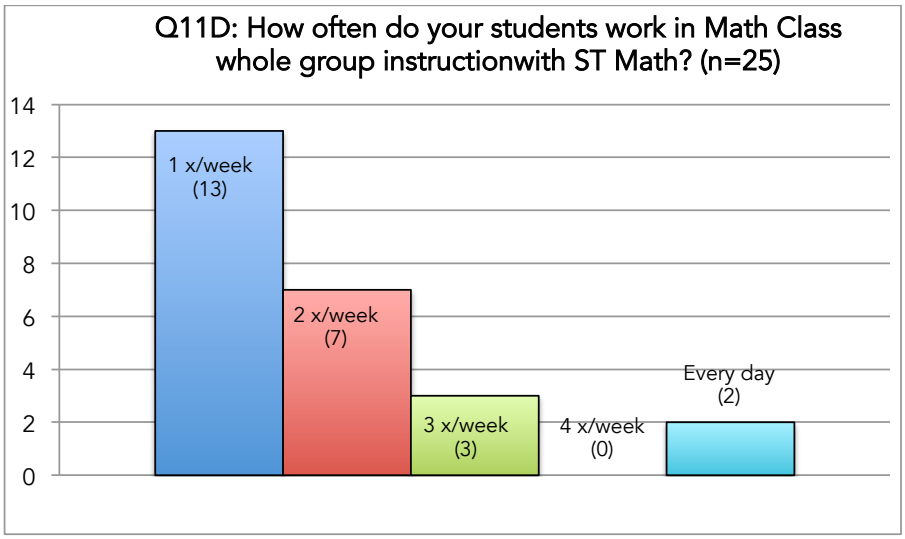


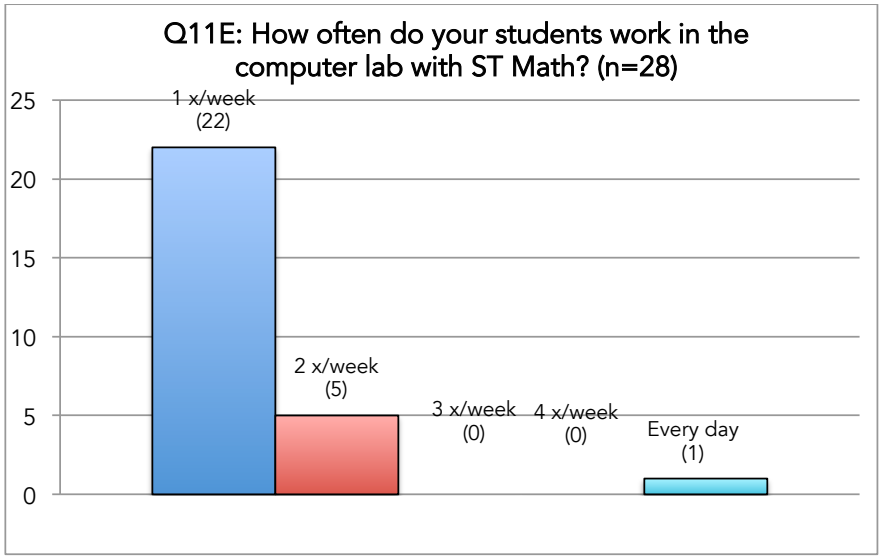
*Respondents were asked to check all that apply

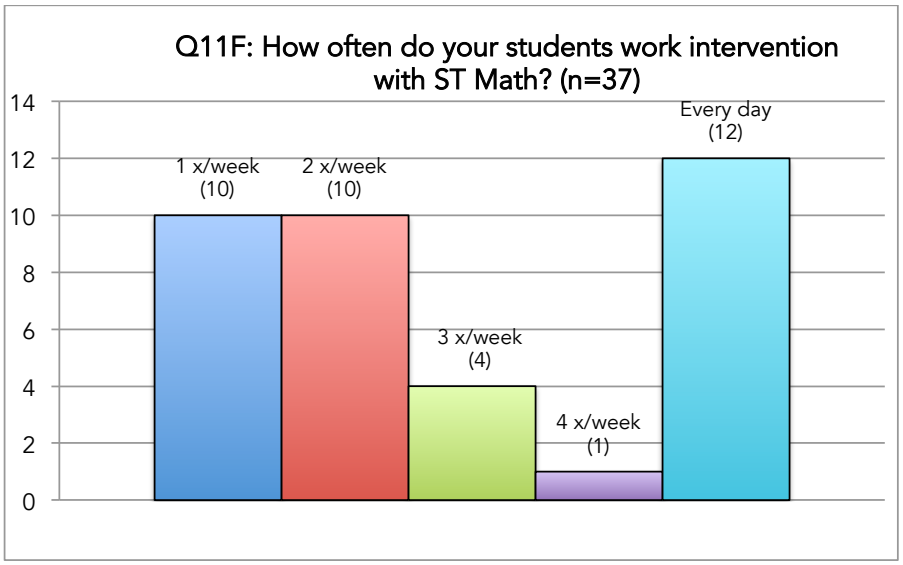


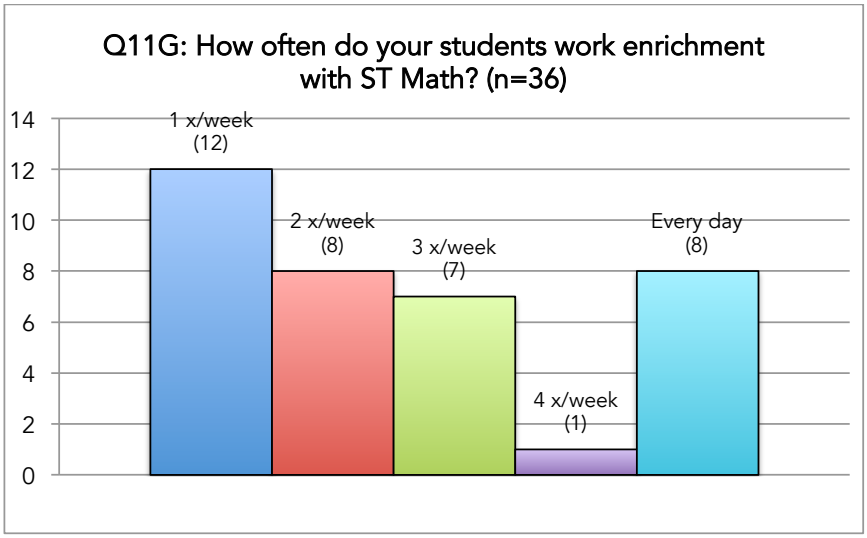

Q11B: How often do your students work in Math Class on 1 to 1 computer/tablets with ST Math? (n=64)
25
20
15
10
5
0
1 x/ week (22)
2 x/week (14)
3 x/week (9)
4 x/week (6)
Every day (13)

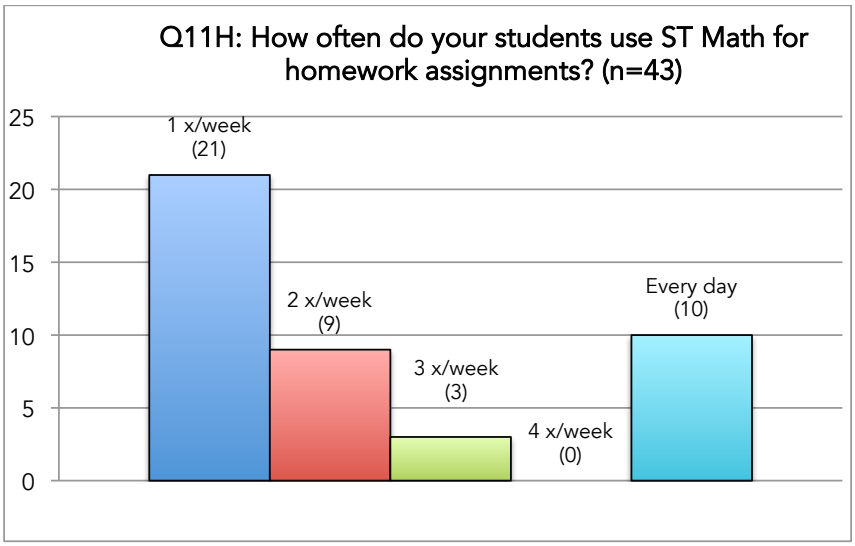

Q11C: How often do your students work in Math Class small group instruction with ST Math? (n=33)
18
16
14
12
10
8
6
4
2
0
1 x/week (16)
2 x/week (7)
3 x/week (3)
4 x/week (0)
Every day (7)


Q11D: How often do your students work in Math Class whole group instructionwith ST Math? (n=25)
14
12
10
8
6
4
2
0
1 x/week (13)
2 x/week (7)
3 x/week (3)
4 x/week (0)
Every day (2)


Q11E: How often do your students work in the computer lab with ST Math? (n=28)
25
20
15
10
5
0
1 x/week (22)
2 x/week (5)
3 x/week (0)
4 x/week (0)
Every day (1)

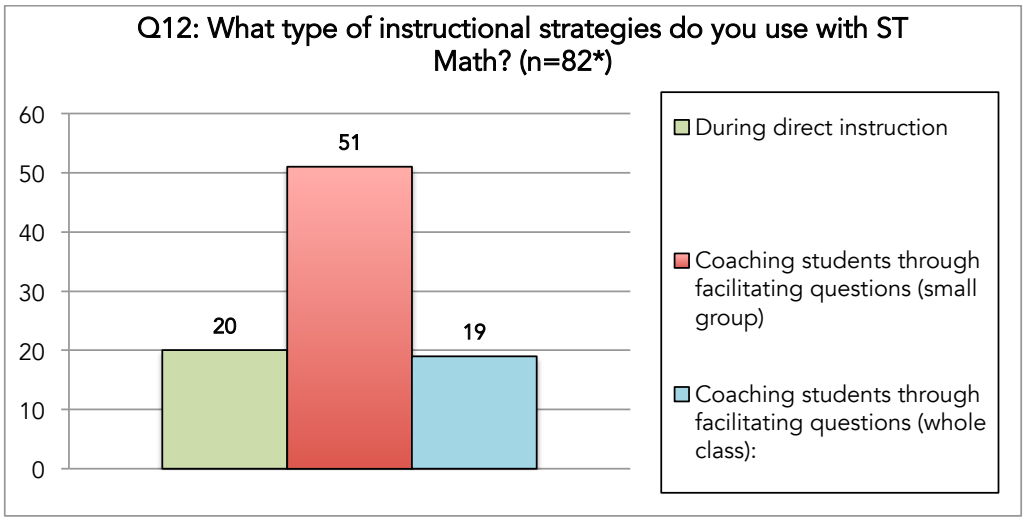

Q11F: How often do your students work intervention with ST Math? (n=37)
14
12
10
8
6
4
2
0
1 x/week (10)
2 x/week (10)
3 x/week (4)
4 x/week (1)
Every day (12)


Q11G: How often do your students work enrichment with ST Math? (n=36)
14
12
10
8
6
4
2
0
1 x/week (12)
2 x/week (8)
3 x/week (7)
4 x/week (1)
Every day (8)


Q11H: How often do your students use ST Math for homework assignments? (n=43)
25
20
15
10
5
0
1 x/week (21)
2 x/week (9)
3 x/week (3)
4 x/week (0)
Every day (10)

Question 12: What type of instructional strategies do you use with ST Math?

(n=82 respondents)



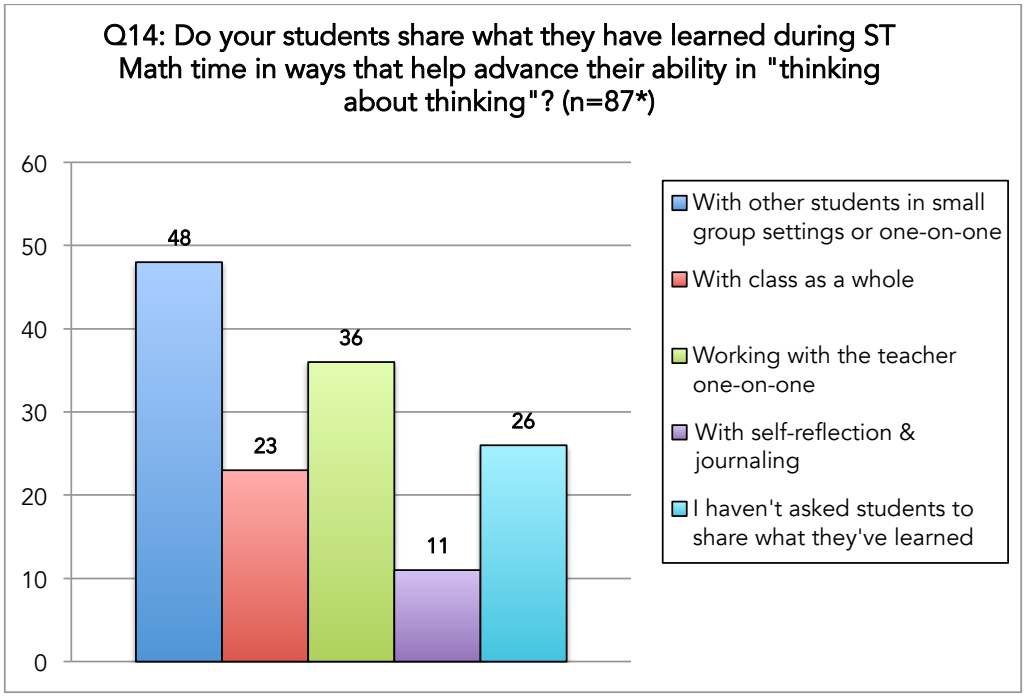
*Respondents were asked to check all that apply.

Question 13: Please describe how you define blended learning for your classroom.
(n=43 respondents)

Defining Blended Learning	ES	MS	Jr HS	HS
Combination of traditional and digital learning strategies implemented in whole group, small group and individually	✓	✓	✓	✓
Unfamiliar with term/not prevalent	✓	✓	✓	
Using technology to enhance learning and demonstrate knowledge	✓	✓		✓
Student led learning	✓			✓
Incorporation technology-based instruction with direct instruction	✓	✓		
Student learning content independently online with teacher facilitating learning	✓	✓		
Homework done at school		✓		
Students working in stations		✓		
Small group instruction	✓			
Used during specific class periods [Daily 5]	✓			
Students working at their own pace	✓			
Cross-curricular instruction	✓			
Differentiated instruction	✓			
N/A	✓			

ES=Elementary School; MS=Middle School; Jr HS=Junior High School; HS=High School

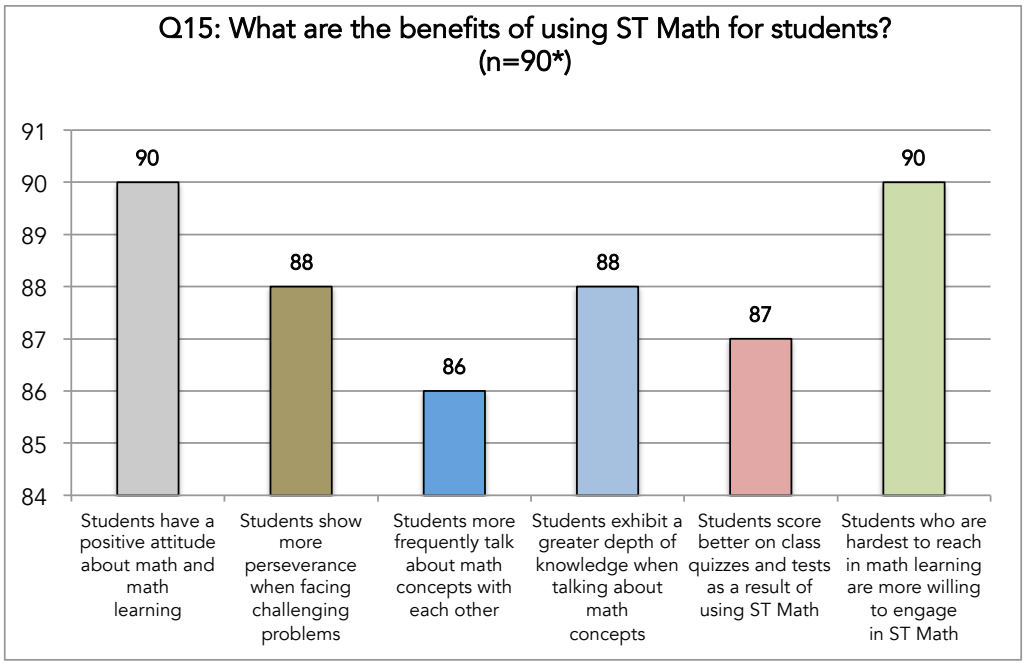
Question 14: Do your students share what they have learned during ST Math time in ways that help advance their ability in "thinking about thinking"?
(n=87 respondents)



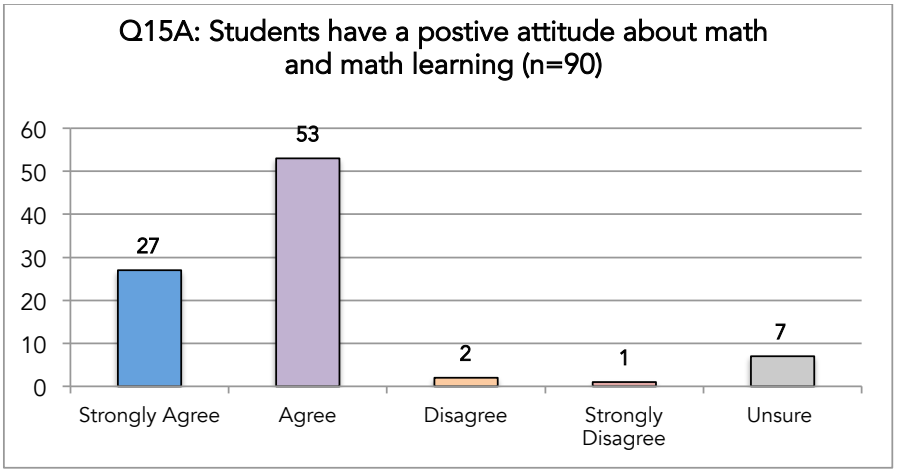
*Respondents were asked to check all that apply.

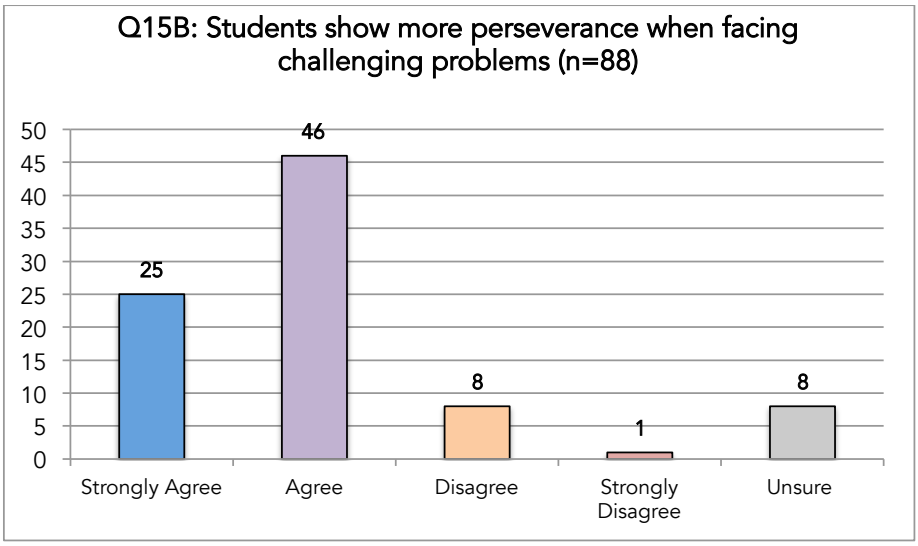
If other please describe (n=3):	Number of Responses
Applying skills to other classroom activities	1
Sharing what level they are on	1
Students help each other when struggling	1

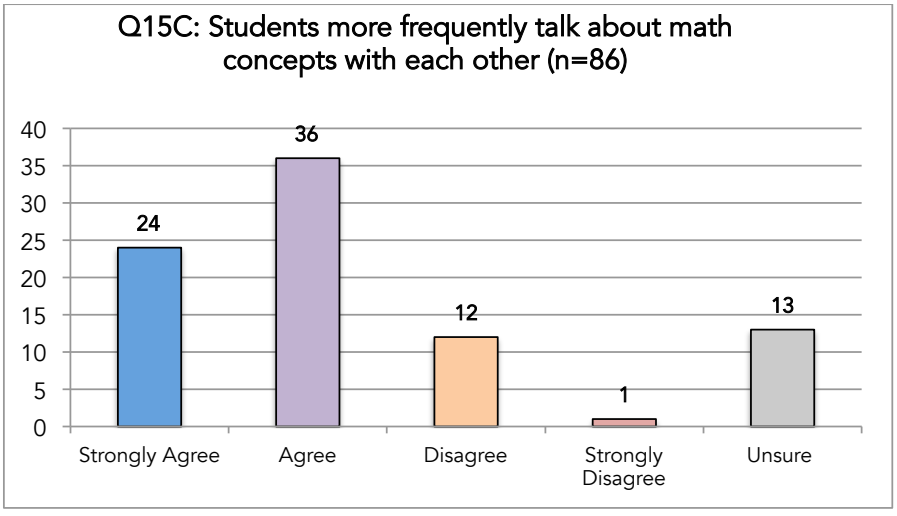
Question 15: What are the benefits of using ST Math for students?
(n=90 respondents)

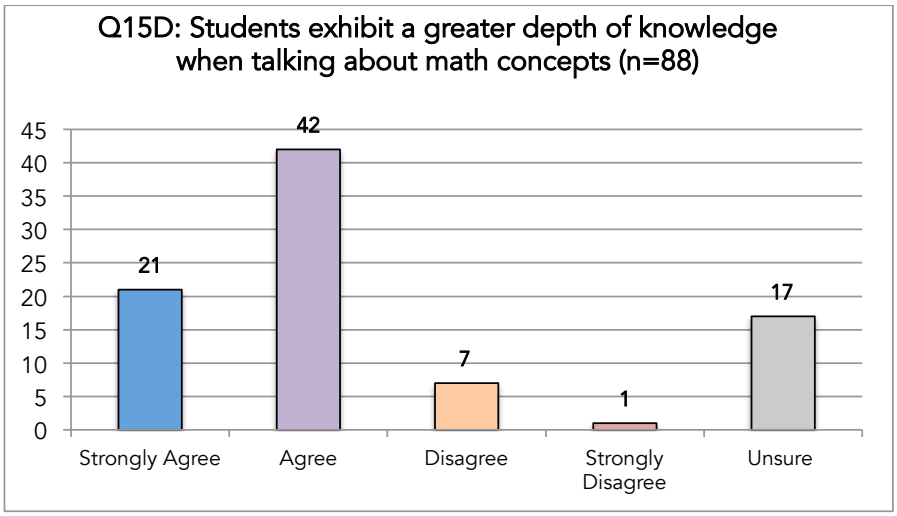


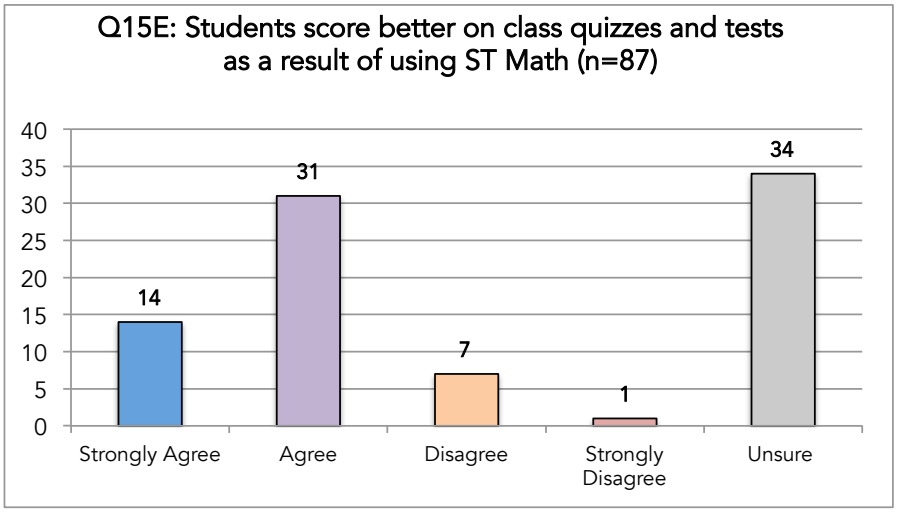
*Respondents were asked to check all that apply.

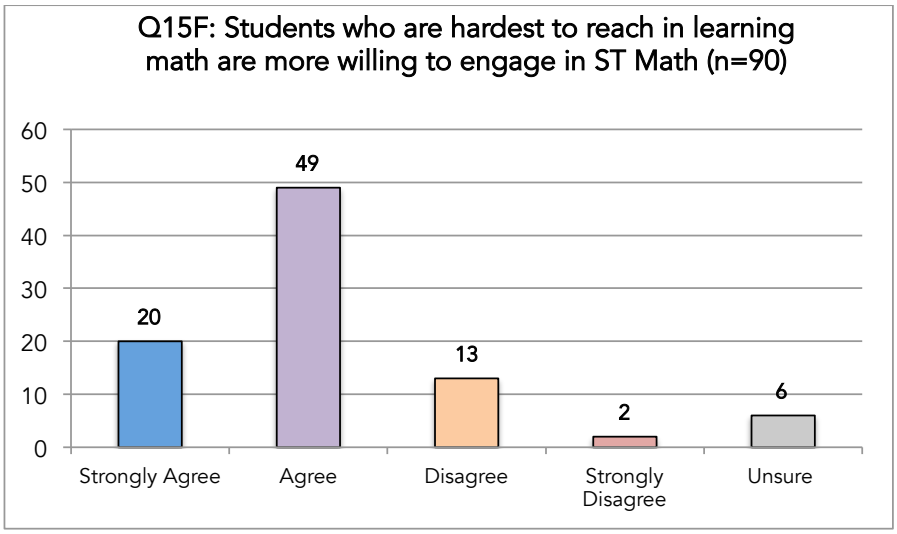



Q15B: Students show more perseverance when facing challenging problems (n=88)
50
45
40
35
30
25
20
15
10
5
0
25
46
8
1
8
Strongly Agree
Agree
Disagree
Strongly Disagree
Unsure


Q15C: Students more frequently talk about math concepts with each other (n=86)
40
35
30
25
20
15
10
5
0
24
36
12
1
13
Strongly Agree
Agree
Disagree
Strongly Disagree
Unsure


Q15D: Students exhibit a greater depth of knowledge when talking about math concepts (n=88)
45
40
35
30
25
20
15
10
5
0
21
42
7
1
17
Strongly Agree
Agree
Disagree
Strongly Disagree
Unsure


Q15E: Students score better on class quizzes and tests as a result of using ST Math (n=87)
40
35
30
25
20
15
10
5
0
14
31
7
1
34
Strongly Agree
Agree
Disagree
Strongly Disagree
Unsure


Q15F: Students who are hardest to reach in learning math are more willing to engage in ST Math (n=90)
60
50
40
30
20
10
0
20
49
13
2
6
Strongly Agree
Agree
Disagree
Strongly Disagree
Unsure

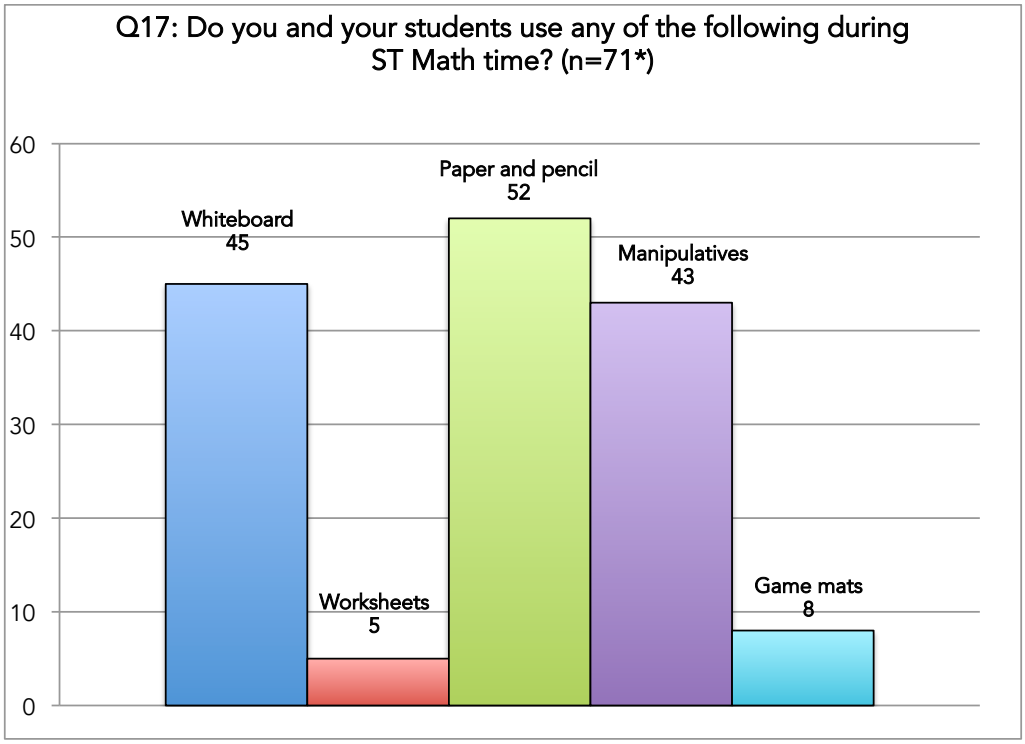
Question 16: In your view, are there other benefits of using ST Math for students? If so, please describe up to three examples.
(n=54 respondents)

Themes	Sub-themes	ES	MS	Jr HS	HS
Benefits to Student Populations	ELL Students can "dive in"	✓	✓		
	Provides enrichment for gifted students	✓	✓		
	Allows for differentiation	✓		✓	
	Helps lower students fill gaps by visualization	✓			✓
	Students with reading comprehension issues can do ST Math	✓			
	Provides new way to think about math	✓			
	Intervention and remediation	✓			
Building Math Skills	Math fluency	✓			
	Frontloading curriculum	✓	✓		
	Students connect concrete and abstract math concepts	✓	✓		
	Building math confidence	✓		✓	
	Introducing and reinforcing skills	✓			✓
	Repetition of content standards	✓			
	Students can explain learning	✓			
	Lesson review	✓			
Student Engagement	Students work at their own pace and level	✓			✓
	Students can use technology	✓			
	Students are engaged in learning	✓			
	Fun and nonthreatening approach to learning	✓			
	Provides motivation	✓			
	Challenges students	✓			
	Offers instant feedback and good graphics	✓			
Creating 21st Century Learners	Building skills in reasoning and logic	✓	✓		✓
	Becoming problem solvers	✓		✓	
	Collaboration with peers	✓		✓	
	Becoming confident independent thinkers	✓		✓	
	Working independently	✓			✓
	Building 21st century skills				✓
	Perseverance	✓			
	Real-world learning	✓			
	Working toward goals	✓			

ES=Elementary School; MS=Middle School; Jr HS=Junior High School; HS=High School

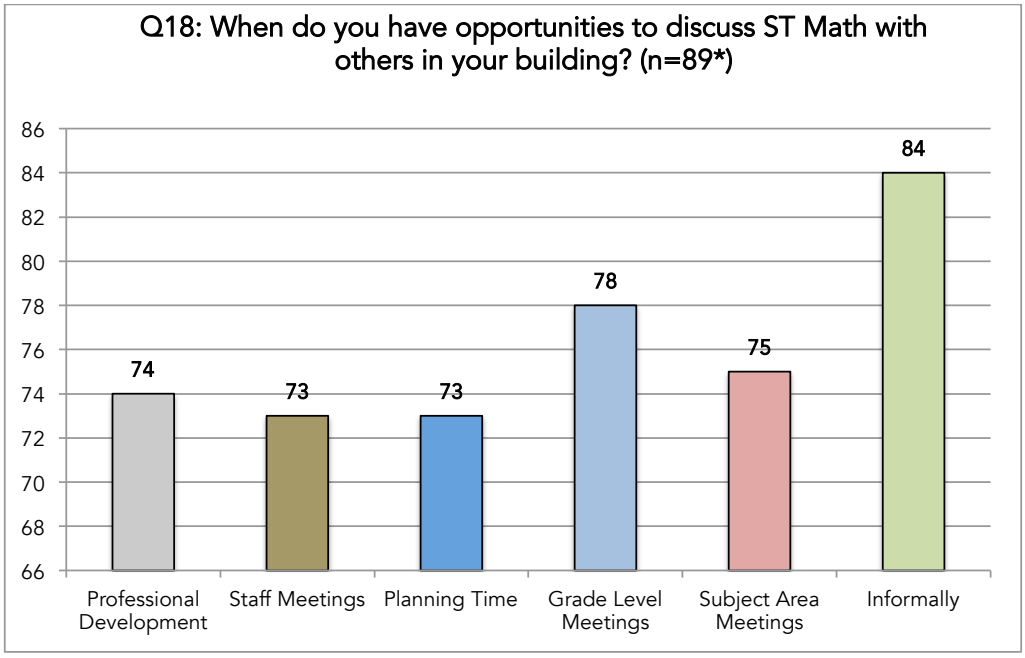
Question 17: Do you and your students use any of the following during ST Math time?

(n=71 respondents)

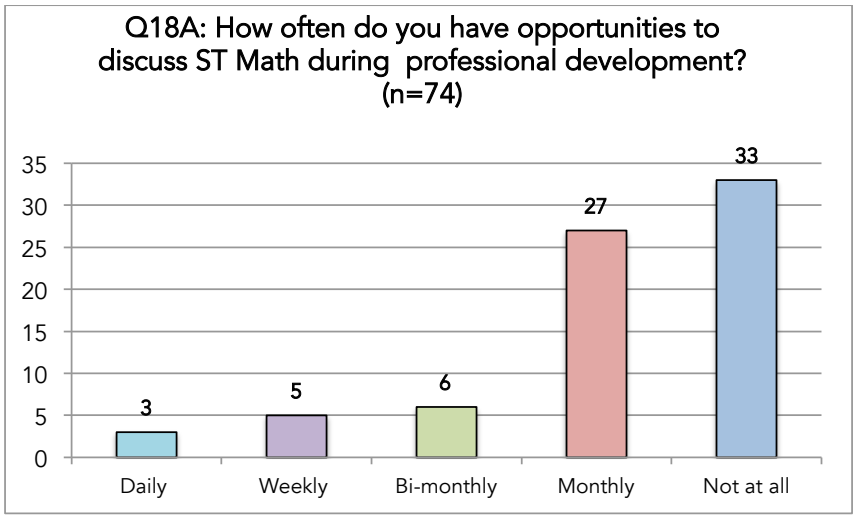


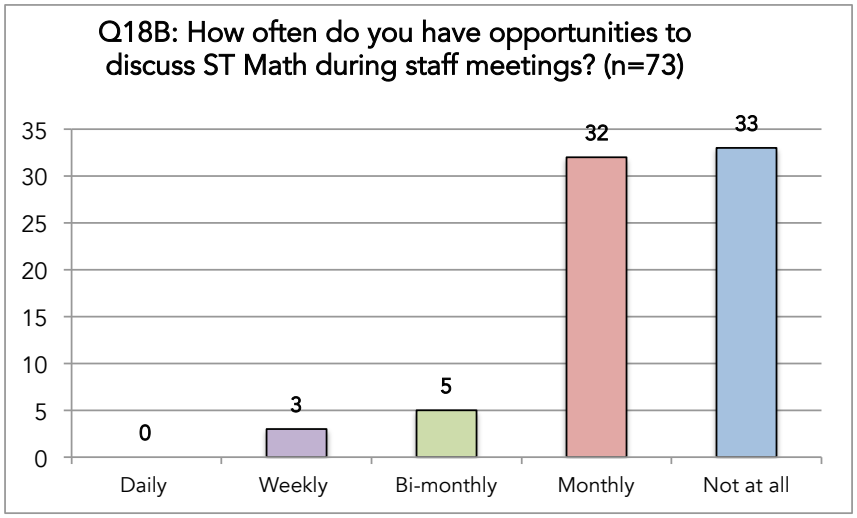
*Respondents were asked to check all that apply.

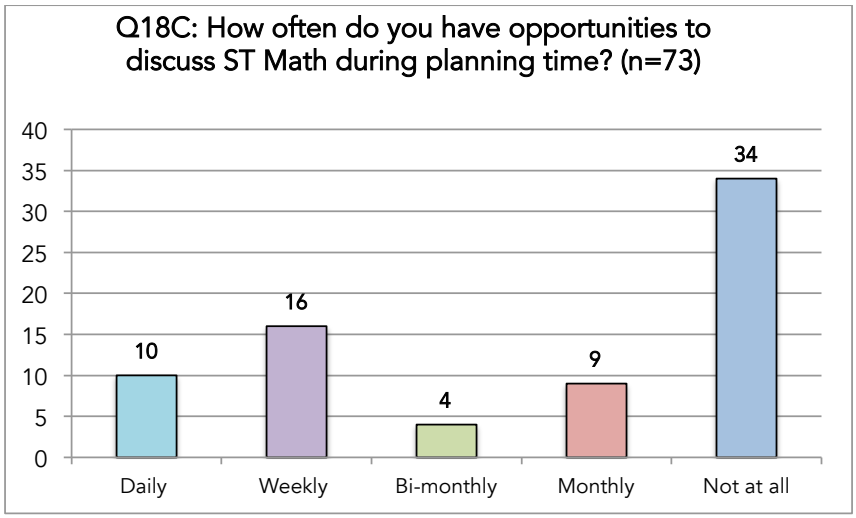
Question 18: When do you have opportunities to discuss ST Math with others in your building?
(n=89 respondents)

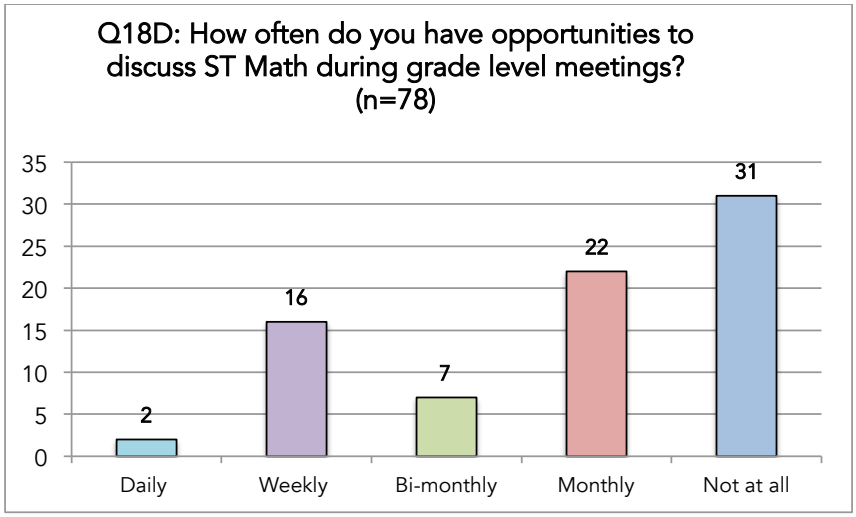


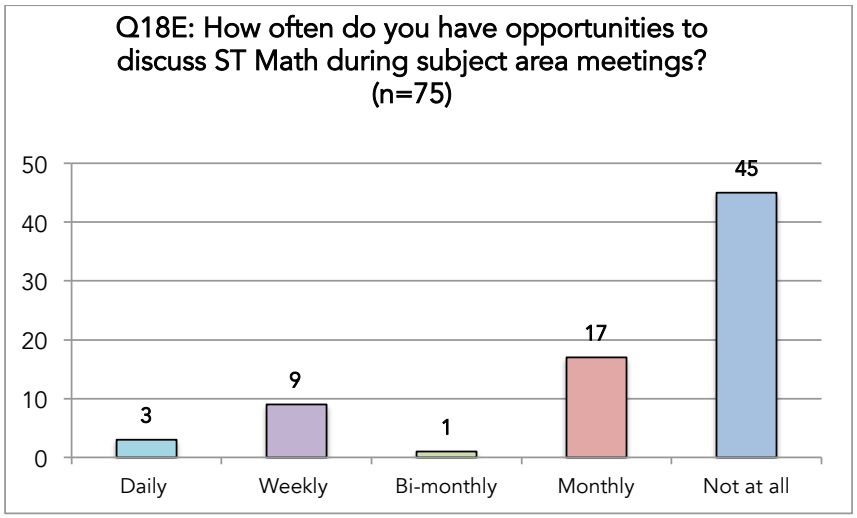
*Respondents were asked to check all that apply.

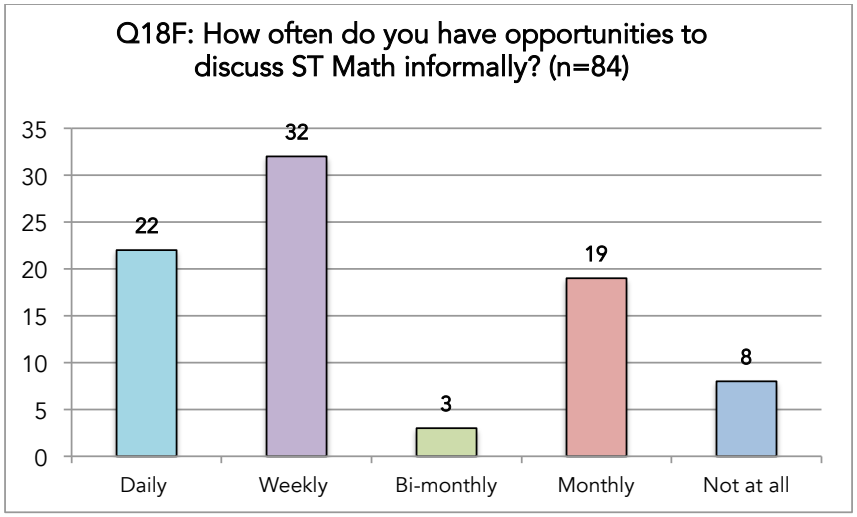

Q18A: How often do you have opportunities to discuss ST Math during professional development? (n=74)
35
30
25
20
15
10
5
0
3
5
6
27
33
Daily
Weekly
Bi-monthly
Monthly
Not at all


Q18B: How often do you have opportunities to discuss ST Math during staff meetings? (n=73)
35
30
25
20
15
10
5
0
0
3
5
32
33
Daily
Weekly
Bi-monthly
Monthly
Not at all

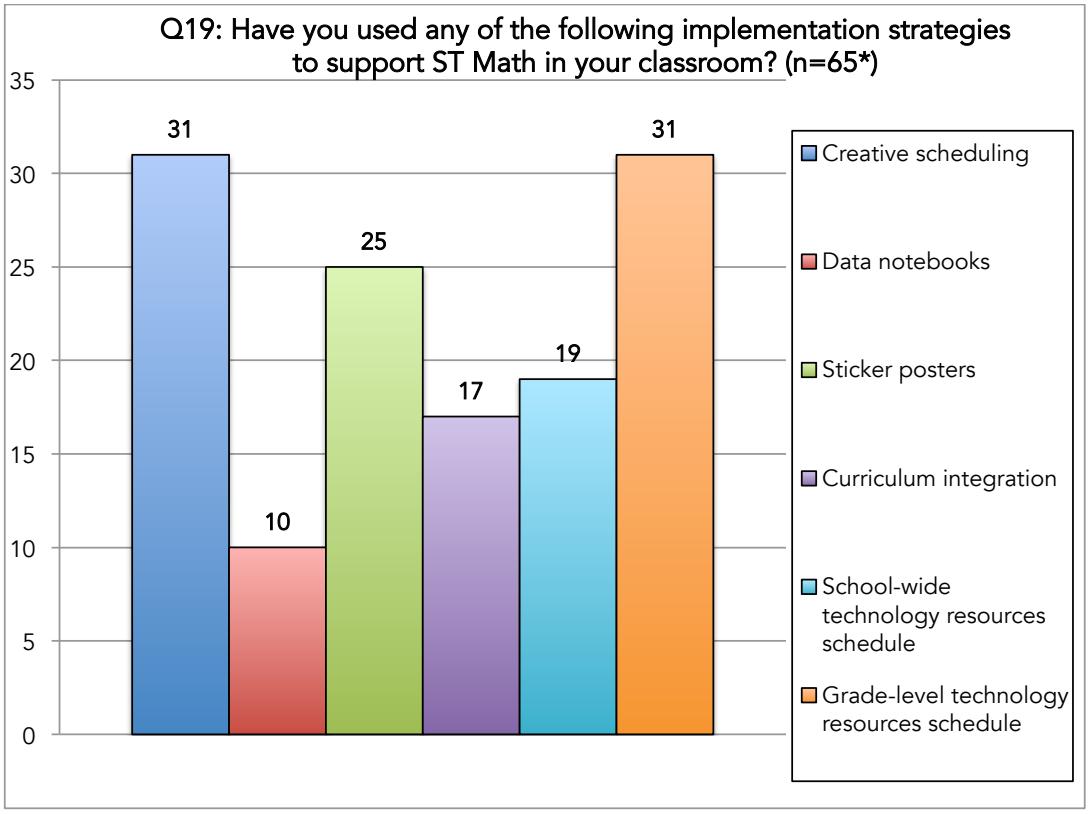

Q18C: How often do you have opportunities to discuss ST Math during planning time? (n=73)
40
35
30
25
20
15
10
5
0
10
16
4
9
34
Daily
Weekly
Bi-monthly
Monthly
Not at all


Q18D: How often do you have opportunities to discuss ST Math during grade level meetings? (n=78)
35
30
25
20
15
10
5
0
2
16
7
22
31
Daily
Weekly
Bi-monthly
Monthly
Not at all


Q18E: How often do you have opportunities to discuss ST Math during subject area meetings? (n=75)
50
40
30
20
10
0
3
9
1
17
45
Daily
Weekly
Bi-monthly
Monthly
Not at all

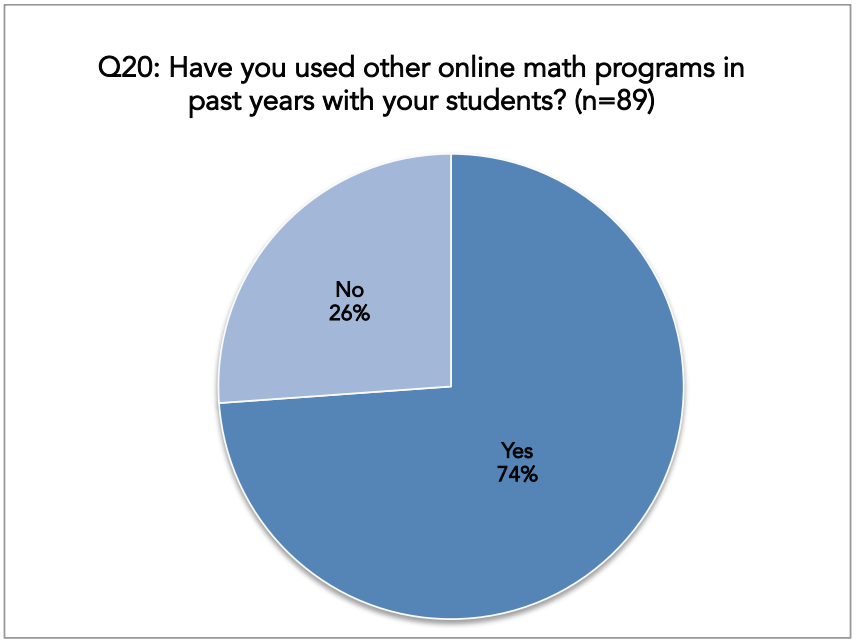

Q18F: How often do you have opportunities to discuss ST Math informally? (n=84)
35
30
25
20
15
10
5
0
22
32
3
19
8
Daily
Weekly
Bi-monthly
Monthly
Not at all

Question 19: Have you used any of the following implementation strategies to support ST Math in your classroom?
(n=65 respondents)



*Respondents were asked to check all that apply.

Question 20: Have you used other online math programs in past years with your students?
(n=89 respondents)



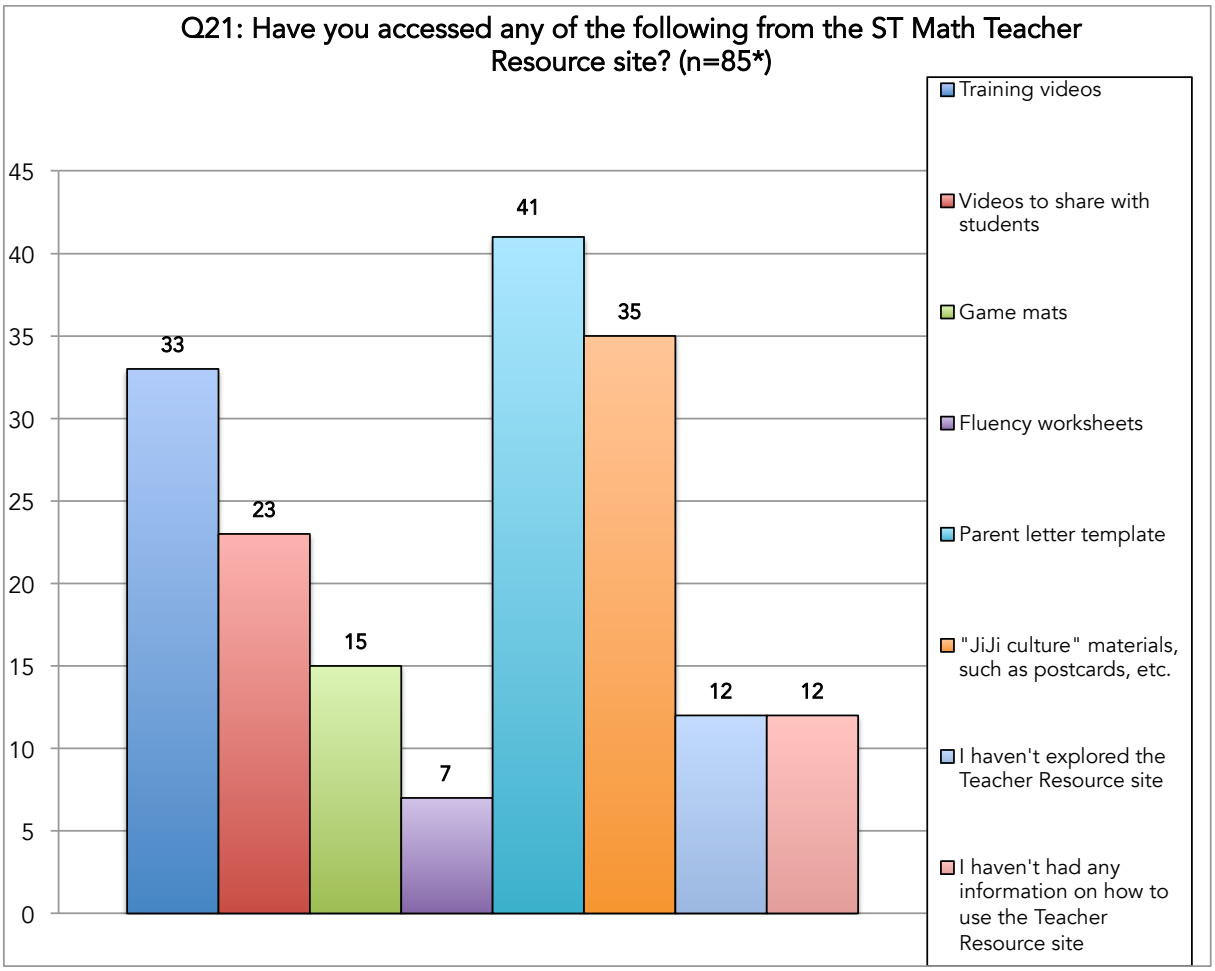
Question 20: If yes, which ones? (n=76*)

Program	ES	MS	Jr HS	HS
Accelerated Math	✓			
ALEKS		✓	✓	✓
Buzz Math		✓		
CoolMath	✓			✓
Digits		✓	✓	
Dreambox	✓			
Fact Master	✓			
Factor Samurai		✓		
First in Math	✓	✓		
Go Math	✓			
GregTang Math	✓			
Happy Numbers	✓			
Hoodamath				✓
Illuminations	✓			
IXL	✓	✓	✓	
Khan Academy			✓	
Leap Track	✓			
Math Antics	✓			
Math Magician	✓			
Moby Max	✓	✓		
Money Max		✓		
Odyssey	✓			
Operation Math		✓		
Plato	✓			
Play Ground	✓			
Quizlet	✓			
ReflexMath	✓	✓		
Rochet Math		✓		
Scoot Pad	✓			
Splash Math	✓			
Stepping Stones	✓			
Study Island	✓	✓		
SumDog	✓			
Tenmarks	✓			
Wozer	✓			
XtraMath	✓		✓	

ES=Elementary School; MS=Middle School; Jr HS=Junior High School; HS=High School

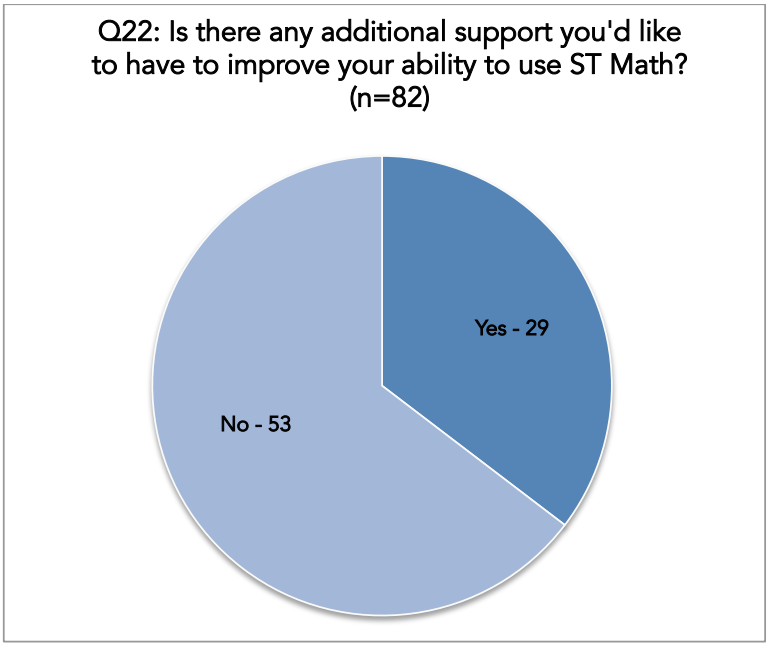
*Respondents were asked to list all programs they use currently or have used in the past.

Question 21: Have you accessed any of the following from the ST Math Teacher Resource site?
(n=85 respondents)



*Respondents were asked to check all that apply.

Question 22a: Is there any additional support you'd like to have to improve your ability to use ST Math?
(n=82 respondents)



Q22b: If yes, please describe three suggestions you believe would improve your use of ST Math.
(n=26 respondents)

Themes	Sub-themes	ES	MS
Training and Support	Thorough training		✓
	Training on using data	✓	
	Training on facilitating questions and challenge levels	✓	
	Visits/PD from MIND staff in every classroom/onsite	✓	
	More Professional Development	✓	
	Time to explore ST Math and plan	✓	
	Integration strategies	✓	
	Help with ordering curriculum	✓	
	Training on how to support students	✓	
	Monthly emails from MIND with timely topics, such as "Getting Started" early in school year	✓	
Working with Students	Ability to create individualized assignments for specific students		✓
	Questions to use with ELL students	✓	
	Allow students to test into levels	✓	
	Help with locating students that move within district and state who already have ST Math accounts (student had to start over as new)	✓	
	Differentiating students so that accelerated students do not become bored	✓	
Technology	Tech issue where work completed at home is not showing up at school	✓	
	Provide sets of iPads for each class	✓	
	Create a phone app to make ST Math more accessible to those without devices/internet	✓	
	Specific game glitches	✓	
	Easier home access	✓	
ST Math Features	Primer describing basic action expectations for each activity		✓
	Specific classroom examples on Teacher Resource site	✓	
	Way to reset alerts once they are addressed	✓	
	Pace of animation too slow for gifted students	✓	

ES=Elementary School; MS=Middle School

APPENDIX

Math Matters: Knowledge Capture Observation Reports (5)

Fairfield and Franklin Counties

Elementary Schools (All Districts)

Note: Field Observation Reports are coded to assure participant anonymity. For example, codes appear as a series of numbers and letters (1-9-MS-33) where the first number represents the county, the next number indicates the district, the letters refer to grade level (e.g., elementary school (ES); middle school (MS); and high school (HS); and K-12 (K-12-ALL), and the last number in the series signifies the school building.

ST Math Site Visits [SV: LB]
June 12, 2015

Educational Consultant [EC]: Twana Young
Instructional Coach [IC]: Marti Klingshirn
Participants: 3 teachers at [2-1-ES-48], 10 teachers at [2-1-ES-29]
Locations: [2-1-ES-48] [S1], [2-1-ES-29] [S2]

Introduction:
At Site 1 (S1), the district originally had 10 teachers scheduled for summer school training, but due to low student enrollment, teachers were cut from the summer school program. Grade levels will be grouped K-2 and 3-5.

Site 2 (S2) had higher than expected student enrollment, so they were attempting to find additional teachers. At the time of the training, class sizes ranged between 25-28 students. If additional teachers are added, they will not receive training since the program begins the Monday following this Friday training session. At this point, there were two teachers assigned to each grade level, aside from grades 4-5 which were combined. There was also one ESL teacher. During the session one of the teachers expressed concern that they would not be able to use projectors in their classrooms since the principal of the school had already packed them away for the summer.

At both schools, the day will be split between reading classes and math with 90-120 minutes spent on each subject on each day of the 5-week program. There seemed to be a bit of confusion about how much time would be spent on math each day. EC and IC planned for 90 minutes, but if sessions are 120 minutes, they recommend increasing time at stations or scheduling ST Math time for every day rather than every other day.

Most of the teachers work at different schools during the academic year.

Student applications were sent to the schools where summer school was scheduled, but the applications were processed by the district. Schools did not receive a final list of enrolled students until the day before training.

While other schools were scheduled for summer school, only two schools were going to be using the ST Math Summer School Curriculum designed by the EC and IC. The other schools will be using a curriculum designed by the district. On the first day of summer school, students will take an achievement test to be taken again on the final day to assess student progress.

The district had originally planned four hours for summer school training, but ultimately teachers were only scheduled for two hours. The EC and IC believe that the training

would have been best as a full-day session with 4 hours of training followed by 2 hours of planning.

Teachers were given ST Math manuals as well as binders with grade-level specific curriculum, schedules, and activities. A list of materials was also included along with game mats and journal prompts. The EC emphasized that this is a pilot program never used before. Teachers were asked to mark suggestions, corrections, and questions in the binders so the program could be improved for the future. Due to a series of errors by the printers, a number of pages were missing from the binders. The EC was going to send the missing pages to the teachers.

The district has the program license in perpetuity, but they have only paid for updates and support for the first five years through the Straight A Fund grant.

TRAINING (SUMMARY)

Both training sessions followed the same basic structure. The training session begins with a brief explanation of how ST Math is designed: works on the perception-action cycle, builds spatial-temporal reasoning, and moves from visual to symbolic. Teachers create classes, and trainers demonstrate a few games so teachers can see how ST Math works. The trainers explain password training and explain how to link students to a class. They were supposed to discuss data reports and data frames but ran out of time

Aside from the first week, the structure of the summer school is that every day they will start with a "puzzle of the day" which will be discussed as a full group, then students will work in 2 of 4 rotations. The rotations are playing physical games, design challenge, ST Math time, and intervention during which puzzles are discussed in small groups. A full rotation spans two days (Monday/Tuesday and Wednesday/Thursday). Fridays also begin with a "Puzzle of the day", but the rest of the day is spent building posters to be presented to the school board. The first week is different from the following four weeks. On the first day, teachers will introduce ST Math to their students and then start password training. If students have already used ST Math, they already have a password. During the following four days, the class goes through each of the four stations as a full class. This will teach students how to do each of the stations independently in weeks 2-5.

The trainers will be available on the first day of summer school, and intermittently throughout the five weeks, to help set up students.

Teachers were asked to complete a brief entrance survey at the beginning of the session. They will be asked to take an exit survey at the end of Summer School. Teachers were also asked complete a brief ST Math training survey at the end of the session.

Learn

- Educational Consultant explains the concepts behind the program
  - Perception-action cycle
  - Learning by playing games and solving puzzles
  - Self-paced, individual instruction
  - Spatial-temporal reasoning – thinking multiple steps ahead
- EC walks the teachers through creating classes
  - Created classes for each of the three grade levels teachers will be covering
  - Teachers may create up to 8 groups per class
- ST Math covers the new Common Core math standards
- Demonstration of Upright JiJi
- Program moves from visual to symbolic

Teach

- Review of curriculum structure
  - On day 1, students will play intro games, link to their classes, and learn their passwords
- Each day will begin with a "puzzle of the day" which will be projected and discussed as a full class
  - EC and IC recommend puzzles for each day, but teachers can choose different puzzles if they wish
  - Discussion about building strategies and learning from the feedback
  - Think before you click
  - Teachers should ask students what they think they should do and what they predict will happen
  - *(S1) Teachers realize that they will need to train students to think before they click*
- Summer school students will be able to play all summer at home
- Demonstration of teacher mode
- Walk through student enrollment and password training
- Encourage students to use the same computer every time
- Age-appropriate manipulatives, materials for working through problems, and journals will be provided
- Video about ST Math will be shown to students
- (S2) Encourage students to "Play the Grey"

Monitor

- Students will record progress in their journals
  - Will help students log out correctly so their progress is saved

Participant Concerns/Questions:

- *Teachers were concerned that they couldn't enroll students in advance*

    - Students have to enroll themselves to get into password training
- *Teachers were mildly skeptical that students could learn passwords*
- *(S2) Concern that projectors may not be available at the school*
    - *Principal had them put in storage for the summer*
- *(S2) Confusion about whether sessions are 90 minutes or 120 minutes*
- *(S2) 20 game mats were provided for each game, so teachers will need to copy more if classes are larger than 20*

Successes:

- *(S1) One teacher would like to use the program with her special education students*

ST Math Site Visit: [2-4-ES-75] [SV: MGC]
April 30, 2015

Instructional Coach: Marti Klingshirn
Participants: 3rd grade class, teacher
Location: [2-4-ES-75]

Introduction:
The site visit consisted of a demonstration of classroom modeling for a third grade class. The 3rd grade teacher asked another teacher to switch specials to get more time with the Instructional Coach. Later in the day, the Instructional Coach worked with a 4th grade class as well, however this event was not observed.

In addition to these classroom visits, the Instructional Coach is developing a full day workshop for teachers to help them write lessons on how to do ST Math in the classroom.

Site Visit (SUMMARY)
At the beginning of the session, students sit on the floor in front of the white board. The Instructional Coach introduces a variety of puzzles to the students and facilitates the thinking process by asking a series of questions. Later, students move to their desks to work on puzzles and receive one-on-one support. After individual work time, students share their answers and strategies with the full class.

Making Connections:
- Instructional Coach shows students a variety of puzzles and guides them through the puzzles with a series of facilitating questions
    - The puzzles get progressively more challenging through the lesson
        - Instructional Coach asks students to explain the differences between puzzles
    - Students observe the puzzles, share strategies with a partner, and then share their strategy with the entire class
- Students are learning through conversation and collaboration
- Students demonstrate mathematical thinking by translating the puzzles into math equations
- Instructional Coach has students work individually
    - Manipulatives are provided for the student use
    - Students work individually for 5 minutes then discuss the math problem with others
- Both the Instructional Coach and Educational Consultant move around the room to monitor student progress and facilitate thinking
    - The importance of perseverance is emphasized

- After individual work time, students are asked to come up to white board to explain their thinking

Student Engagement:

- Some students became restless when Instructional Coach stopped to define the mathematical terms expression, equation, and equal
- Students were excited to have guests in the classroom

Teacher Engagement:

- Teacher steps in to explain "number model" and "number sentence" to clarify the difference between equation and expression
- Teacher demonstrates concern that process of working with fractions in ST Math is different from how it is taught in the classroom
    - Instructional Coach suggests that the teacher listen to the students explain their thinking,
        - Teacher can share her thinking where the difference is apparent
- Teacher provides students with different strategies for solving problems

Teacher Concerns:

- Some students are confused because they think the number sets are answers
- Students are having difficulty with fractions

ST Math Site Visit: [2-4-ES-ALL] [MGC: Data Meeting]
May 21, 2015

Educational Consultant: Twana Young
Participants: [3004]
Location: [2-4-ES-ALL]

Introduction:
This was a data meeting. Educational Consultant and [3004] reviewed data for individual schools in the district as well as overall district data.

Site Visit (SUMMARY)
ST Math lead and Educational Consultant reviewed data and discussed strategies for future use of the program. They discussed some of the challenges and successes experienced by the schools in their first year using the program.

Successes:
- *Built good awareness of the program*
- *Schools where teachers have embraced ST Math have seen growth*
    - *[3004] is planning to reach out to teachers who have not embraced ST Math*

Challenges:
- *Information not shared in timely manner*
    - *Will be fixed by principal sharing information*
- *Hard to keep up with competing initiatives*
- *Helping building leaders understand what ST Math is and how it can be used*
- *Technology*
    - *Issues with iPad connectivity at some schools early in the year and continuing today*
        - *Fixing the problem is time consuming*
        - *Disagreement between ST Math IT and District IT*
    - *Some games freeze*
    - *Teacher mode is inconsistent on iPads*

Training:
- *[3004] is conducting an ST Math training for teachers*
    - *30 teachers signed up*
    - *4 days with 4 hours per day*
    - *Will give teachers an opportunity to play with puzzles and figure out how to integrate them into instruction*
    - *Learn how to use data reports*

    - *Model ways to use ST Math as a whole group lesson*
    - *Small group instruction*
    - *Wants teachers to walk out with at least 2-3 puzzle concepts they could integrate into their instruction*
- Educational Consultant recommends using some of the self-guided courses and Fluency courses
    - *[3004] has limited experience with Fluency*
- *Would like PD about using ST Math time more effectively*
- Educational Consultant can set up custom webinars to address specific school needs
- Educational Consultant reminds [3004] about June Academy

Working with Data Reports and Data Frames:

- *[3004] does not always read the data reports that the Educational Consultant sends, but has used them*
- Educational Consultant reviews district-wide report
    - *[3004] would like a copy of this report*
        - *Report will be sent password protected since it contains student data*
    - *Report makes it easier to see trends*

Student Engagement:

- *Students will be able to use ST Math until August 1*
- *Program has taught perseverance*
- *Students love the program and want access over the summer*
- *Some students are frustrated that they have to play through games even though they got 100% on pre-test*

Teacher Engagement:

- *Teacher feedback was positive*
    - *Easy for students to use independently*
    - *Front loads math content*
    -

Administrative Engagement:

- *Some issues with principal buy-in*
    - *[3004] circumvented this by reaching out to math coaches*
- *Encouraging teachers to celebrate progress*

Concerns:

- *Concerns about how building-wide access will roll over*
- *Special Ed teachers have had issues accessing student data*
    - *If students could be shared by teachers, it would solve issues*

- *Concern about whether student progress will be saved for Special Education students who have been moved between ST Math grade levels*
- *Question about whether curriculum can be aligned for PARCC by MIND or if teachers have to do it*

Moving Forward:

- *[3004] is planning to message teachers about expectations for year 2*
- *Encouraging principals to celebrate progress*
- *Some curriculum writers are going to incorporate ST Math into curriculum*
    - *Would like Educational Consultant to speak to curriculum writers*
- *Getting beyond seeing ST Math as only a remedial program*
- *Teachers need more information about Fluency*
    - Educational Consultant offers to set up a Fluency webinar
- Educational Consultant is going to set up a Google Doc for principals to use to request site visits or training
- Educational Consultant wants to create a website forum for teachers to share ST Math practices
    - *[3004] recommends making it available across districts*
- *[3004] recommends doing a "Twitter chat"*

ST Math Site Visit: [2-5-ES-84] [SV: LB]
April 29, 2015

Educational Consultants: Twana Young, Doug Bruno
Participants: [1001]; Principal; Students with 100% completion (13); Two classrooms
Location: [2-5-ES-84]

Introduction:

The Educational Consultant arranged for a visit from JiJi the penguin to reward school progress and those students with 100% syllabus completion. There was limited time for this visit, so JiJi, the educational consultants, and staff from the school attempted to maximize the visit. The school set up a classroom for JiJi to don her costume, and then brought the students with 100% completion to that classroom. JiJi then visited two classrooms across the hallway from the computer lab. The school was late to fully implement ST Math. Some of the children with 100% syllabus completion did not begin using the program until January.

Site Visit (SUMMARY)

Students with 100% syllabus completion were brought to the computer lab. One of the Educational Consultants spoke with students in the hallway while they waited for JiJi. Upon completion of their grade level material, the students were tasked to begin the "Challenge" Levels. Some of the students were curious about why these levels were so difficult. According to the Educational Consultant, some of these challenges would be difficult for high school and college students. Once penguin was in costume, the students were brought in to meet JiJi and receive certificates. All of the students were very excited to meet JiJi, although some of the older students were equally interested in seeing who was inside the penguin suit. In total, 13 students had completed ST Math for their grade level, 7 girls, and 6 boys. By grade level, four 1st grade, four 3rd grade, and five 5th grade students had completed the program. According to the principal, half of the students with completion were Title I students. The Educational Consultant presented the "Game-a-Thon Challenge" to make a board or card game for JiJi, and students were allowed to address two questions to JiJi. The students were dismissed, and JiJi crossed the hall to a fourth grade classroom. The Educational Consultant introduced "Game-a-Thon Challenge" to this class as well. The students asked a few questions (e.g. Why is JiJi a penguin? Is JiJi a boy or girl? How long have you had this program?), then JiJi walked into the hall where students were traveling between classes. JiJi received many hugs and handshakes as the children passed. The site visit concluded with a quick visit to one additional classroom.

Successes:

- 13 students have 100% syllabus completion
    - 6 boys and 6 girls, and one indeterminate

    - Four 1st grade
    - Four 3rd grade
    - Five 5th grade
        - Half of these students are Title 1
- When asked by the Educational Consultant if they like math all but 2 students raised their hands

Creating a JiJi Culture:

- The school had created a poster wishing JiJi a happy birthday
- Most of the students knew that April 28th was JiJi's birthday
- Photographs of students with JiJi were uploaded to the school's website

Student Engagement:

- The students were very enthusiastic to be meeting JiJi
    - JiJi was mobbed while standing in the hallway by a class of students who wanted to hug the penguin
    - Three other classes of students hugged, touched, and wished JiJi happy birthday as they walked past

Teacher Engagement:

- The teachers were excited to meet JiJi
    - Two teachers asked to have their picture taken with JiJi

ST Math Site Visit: [2-5-ES-88] [SV: LB]
April 29, 2015

Educational Consultants: Twana Young, Doug Bruno
Participants: [1001]; [2022], kindergarten, 1st and 4th grade students and teachers
Location: [2-5-ES-88]

Introduction:
The Educational Consultant offered to arrange for a school visit from JiJi the penguin. [1001] had difficulty scheduling schools for the JiJi visit as the time frame available was too close to the end of the day for most of the district schools. To optimize the limited time, the plan was for JiJi to visit as many classrooms as possible.

Site Visit (SUMMARY)
JiJi donned the costume in a conference room while one of the educational consultants and [2022] waited in the office. [2022] said that she was extremely excited for the visit because she had seen substantial gains from her students. [2022] also has a daughter in the fourth grade that loves ST Math. The classroom visit was with three classes of kindergarten students who assembled in one of the classrooms. After visiting kindergarten, JiJi proceeded to a 4th grade classroom. [2022] took pictures of students with JiJi encountered en route. [2022] explained these students are in special education, and there has been great improvement in math skills due to ST Math. In the 4th grade classroom JiJi posed with the full group of students. The teacher said that a lot of her students were at 100% syllabus completion, and 7 students (4 girls and 3 boys) raised their hands when the Education Consultant asked who was done with ST Math. The Educational Consultant introduced the "Game-a-Thon Challenge," in which students create games for JiJi, briefly before leaving to visit a 1st grade classroom. One 1st grade student asked how JiJi survives if she isn't in the Artic. Having been told that it is JiJi's birthday, the students express birthday wishes as JiJi leaves the room. As JiJi was heading back to the school office, a teacher who had been looking for JiJi for gifted math stopped to get his picture taken with the penguin. All of his 4th grade students had reached 100% syllabus completion.

Successes:

- During the kindergarten classroom visit all students eagerly raised their hands when asked by the Educational Consultant if they like ST Math
- Seven students in the 4th grade self-identified as having 100% syllabus completion
    - 4 girls and 3 boys
- Autistic student loves JiJi and has made significant math progress with ST Math
- All 4th grade gifted math students have reached 100% syllabus completion

Creating a JiJi Culture:

- Many of the students knew that April 28th was JiJi's birthday

Student Engagement:

- The students were very enthusiastic about meeting JiJi
    - Students who encountered JiJi expressed adoration about the penguin
    - Students were eager to have their picture taken with JiJi

Teacher Engagement:

- The teachers were equally excited to meet JiJi
    - One teacher asked to have a picture taken with JiJi

Administration Engagement:

- [2022] was extremely excited to meet JiJi
- [2022] was tracking ST Math progress in her building
    - [2022] tracked progress of some individual students

APPENDIX

Math Matters: Knowledge Capture Observation Reports (1)

Fairfield and Franklin Counties

Middle Schools (All Districts)

Note: Field Observation Reports are coded to assure participant anonymity. For example, codes appear as a series of numbers and letters (1-9-MS-33) where the first number represents the county, the next number indicates the district, the letters refer to grade level (e.g., elementary school (ES); middle school (MS); and high school (HS); and K-12 (K-12-ALL), and the last number in the series signifies the school building.

ST Math Site Visit: [1-3-MS-20] [SV: MGC]
April 28, 2015

Educational Consultant: Twana Young
Participants: [2005]; [2006]; all middle school students and teachers
Location: [1-3-MS-20]

Introduction:
The Educational Consultant offered to arrange for a school visit from JiJi the penguin earlier in the spring. The visit was scheduled a few months in advance, and this was the only school in the district to receive a visit from JiJi. A building leader arranged for teachers to combine classes so that JiJi could meet the entire student body.

Site Visit (SUMMARY)
JiJi visited all of the students in the school in several combined in classrooms, handing out completion and progress certificates. Teachers determined the level of progress necessary for their students to receive a certificate, so each classroom had different levels of achievement that they chose to highlight. Some students received certificates for 100% syllabus completion, some for 95-100% completion, and others for 90-100% completion. In one class, a student received a certificate for 67% completion because they didn't start the program until January. In three classrooms, no students had reached 100%, so the teachers set a rate of progress to acknowledge. The Educational Consultant also introduced the "Game-a-Thon Challenge" in which students create board and card games for JiJi.

Successes:
- JiJi distributed 124 certificates
    - In total 75 boys and 49 girls were recognized
    - 93 students (58 boys, 35 girls) were recognized for 90-100% completion
- One student has 100% syllabus completion and has completed both the challenge levels and fluency
- The student who reached 100% syllabus completion first in the building received dog tags as a reward
- Building has highest syllabus completion rate of all of the middle schools in the district
    - Second highest completion rate of all schools in district
- The classroom with most 100% syllabus completions in an inclusion classroom
- One student presented ST Math to the school board

Student Engagement:
- Students were very enthusiastic about meeting JiJi

- Some student requested to have their picture taken with JiJi so they could share it on social media
  - A few classes had a group picture taken with JiJi
- Many students asked for hugs and high-fives from JiJi

Teacher Engagement:

- Several teachers had their pictures taken with JiJi

APPENDIX

Math Matters: Knowledge Capture Observation Reports (3)

Fairfield and Franklin Counties

K-12 (All Districts)

Note: Field Observation Reports are coded to assure participant anonymity. For example, codes appear as a series of numbers and letters (1-9-MS-33) where the first number represents the county, the next number indicates the district, the letters refer to grade level (e.g., elementary school (ES); middle school (MS); and high school (HS); and K-12 (K-12-ALL), and the last number in the series signifies the school building.

ST Math Site Visit: [1-3-ES-MS-All] [MH: Data Meeting]
May 19, 2015

Educational Consultant: Twana Young
Participants: [1005]
Location: [1-3-ES-MS-All]

Introduction:
This was a data meeting. Educational Consultant and [1005] reviewed data for schools in the district. Two of the schools just started and are around 1% completion. This late implementation will give teachers experience with the program so they can plan how to use it effectively over the summer.

Site Visit (SUMMARY)
[1005] and Educational Consultant reviewed data and discussed strategies for future use of the program. They discussed some of the challenges and successes experienced by the schools in their first year using the program.

Successes:

- *Students are engaged in the program*
- *Teachers like it*
- *Able to track student work through the program*
- *STAR scores are higher this year than last year*
    - *Will be doing data analysis this summer*
- *Teachers claim that students are more confident manipulating the PARCC*
    - *iPad practice with ST Math was helpful*

Challenges:

- *Low buy in at some schools*
    - *At some schools ST Math was seen as just "one more thing"*
    - *Improvement in student achievement has convinced some teachers to use the program*
- *Trying to figure out how to integrate ST Math with Eureka and Springboard*
- *ST Math requires a device*
    - *District is not 1-to-1*
- *Teachers weren't clear about assigning homework*
    - *Playing the green aids retention*
- *Lot of retirees this year*
- *Some issues with schools that recently began using the program*
    - *Students were not assigned to the right classes*

Implementation

- *Some schools recently started with the program*
    - *Having some experience with the program means that teachers had the summer to develop their plan*
    - *Plan to reach 1% at newly implemented schools by end of the school year*
- *District is making changes to the middle school curriculum*
    - *Incorporating 30 minutes of intervention*
- *Implementation with JHS/HS has been really hard*
- Educational Consultant recommends following the model of another school outside of the district
    - 2 math periods
    - Rotation model based on Data
    - Small group instruction
    - Task on special problems
    - 1-2 sessions of lab time per month
    - Grades 6-8 have "JiJi Socials" after school
    - Teachers dressed as JiJi for Halloween
- Educational Consultant also discussed the successful implementation strategies of a middle school within the district
    - Language arts teachers modeled ST Math
    - The facilitation questions work well for language arts classes

Training:

- *Overall implementation has been easy*
    - *School leaders received part 1 training*
    - *Part 2 training on site with teachers*
    - *Schools were given options*
    - *Very large district*
- Would like more facilitation training and station rotation modeling
- Summer training sessions and webinars will be available
- *3 teachers are signed up for Train-the-Trainer*
    - *K-4 instructional coach*
    - *5-6 content teacher who will rotate across 3 schools*
    - *JHS/HS content teacher*
- There is a Google doc where principals can sign up for site visits for labs, modeling, and staff
    - The roll out for the Google doc went well
        - Helping schools find resources
- Videos are available on the ST Math resource site
    - Educational Consultant recommends making videos with teachers using ST Math in the classroom
        - *School is having a tech week with 9 am/pm sessions*
            - *Teaching how to create videos*

- *Hoping some ST Math teachers will be in it*
- *Educational Consultant recommends using both teachers and students for videos because it's more effective*

- Discussion about making good use of the teachers with Train-the-Trainer credits

Working with Data Reports and Data Frames:

- Reviewed the data at the district level with individual buildings
- Reviewed data across the district looking at students
- [1005] requests that Educational Consultant send monthly reports
- Encouraging teachers to use ST Math reports is a goal for next year

Student Engagement:

- *Many students had a negative attitude towards math last year, but they seem to enjoy the program this year*
- *Students want to play at night and during recess*

Administrative Engagement:

- *Three schools in district have high buy-in*
- *Some schools have no leader buy-in*

Resources:

- *450 more devices are arriving*

ST Math [2-1-K-12-ALL] [District Wide Event] ST Math Station– [2-1-HS-100]
May 2, 2015

ST Math Representative: John (Cleveland/Michigan Region)
Participants: [2-1-HS-ALL] Curriculum Coordinator; [2-1-HS-100] Intervention and Special Education teachers; [2-1-ES-48] 3rd Grade Teacher; [2-1-ES-48] Students, 3rd Graders (8), 5th Grader (1), 1st Grader (1), Unknown Grade (2)
Location: [2-1-HS-100]

Introduction:
[2-1-K-12-ALL] hosts an annual [District Wide Event] at several district school sites simultaneously on a Saturday in early May. Students are bussed in from other district schools, and the community is invited to participate a number of activities. MIND Research set up a ST Math demonstration area in the library at this site, and the ST Math Representative was available to answer parents' questions about ST Math and explain the reasoning behind visual learning methods.

Site Visit (SUMMARY)
The ST Math demonstration area was one of many other activities available at [2-1-K-12-ALL]'s [District Wide Event] and took place in the host school's library. The ST Math station was operated by two volunteer teachers from the high school with no ST Math experience, as well as a volunteer elementary school teacher whose students are using the program. School administrators spoke with the MIND Research representative about using the program in their schools. Signage for ST Math was limited, but when an announcement was made in the auditorium about the ST Math station in the library, there was an influx of students and parents. [2-1-ES-48] students were there to demonstrate ST Math, and interacted with other children who came to try ST Math puzzles. Most of the students who came to visit the station already had ST Math accounts, those without accounts could access ST Math through guest accounts. The ST Math Representative reviewed features of the program with teacher volunteers while they watch the student play

Successes:
- Special education teacher introduced to the program wants to use it with her high school students
- Several parents took literature provided by ST Math

Creating a JiJi Culture:
- 3rd grade demonstrator refers to ST Math as "JiJi's program"
- 3rd grader demonstrator wants to hang a JiJi poster in his bedroom
- ST Math Representative showcased JiJi materials

- Cardboard JiJi cut out was prominently displayed
- ST Math brochures for adults and children were distributed
- ST Math ruler/bookmarks were handed out to children
- ST Math pens were offered

Student Engagement:

- ES teacher reported students play for two hours straight without any complaints
- ES teacher reported ESL students easily understand the program and are actively learning
- 3rd grade demonstrator who lost focus was re-engaged when Special Education HS teacher sat with him asking questions
- Demonstrating students knew how to pull up their personal progress and display how they are doing in the program to visitors
- Several students claim they play ST Math at home on their iPads
- Students help others log into their accounts

Teacher Engagement:

- ES teacher reported ST Math has helped students learn fractions much better than in previous years
- ES teacher sees ST Math as intuitive and students learn without the awareness they are learning

Technical Concerns:

- Volunteer teachers discussed how PARCC testing takes away from ST Math lab time
- Volunteer HS Teacher noted that the program does not use a dyslexic-friendly font
- Some students have difficulty navigating menu and need adult help
- Visiting ESL students have difficulty remembering their picture passwords to log into their accounts in the program
- Visiting ESL parents seem interested in ST Math/ MIND Research literature but it was only provided in English

ST Math Site Visit: [2-1-K-12-ALL] Data Team Meeting [SV: MGC] May 20, 2015

Educational Consultant: Twana Young
Participants: [3007]; [1003]; [1009]; [1010]
Location: [District Administration Building]

Introduction:

District Administrator organized a data team to track on ST Math implementation district wide, in addition to other programs. This is the first team meeting with the Educational Consultant. Some participants did not have a ST Math account, so the Educational Consultant set up access for these participants. During the meeting, the Educational Consultant provided an overview of the kinds of data reports available to help the team determine how they will monitor ST Math in the coming year.

Site Visit (SUMMARY)

During the meeting, the group discussed a variety of issues related to data reports. There were concerns that certain student data could not be separated. Most of the potential ways to bypass this issue were cumbersome because of the quantity of certain students in the district. The Educational Consultant demonstrated the different types of data reports that could be viewed at the district level and discussed which parts of the report were most useful at the district level.

Challenges:

- Finding time for ST Math is an issue for teachers
    - Allocating additional time for Fluency is also a challenge
- Students can only belong to one teacher

Working with Data Reports and Data Frames:

- Educational Consultant reviews syllabus progress and student mastery
    - Points out which school has the most progress in the district (20%)
- Educational Consultant reviews alerts
    - Low post-test scores may be caused by students skipping post-test
    - Demonstrates how to monitor attempts, current objectives, decreasing post-test scores
        - Students cannot retake quizzes on ST Math, but some teachers have rewritten quizzes for students
    - *Not all of the alerts are useful at the district level*
- Explains difference between syllabus progress and syllabus mastery
- Discussion of how to view reports at the district level and what elements are most important to track
- Data reports can be downloaded to a spreadsheet

- Educational Consultant recommends looking at both district level and individual school reports
    - Assess and address issues that individual schools are experiencing
- Objective maps are not available for district level views

Teacher Engagement:

- Educational Consultant recommends engaging teachers with low progress

Participant Concerns:

- *Difficulty understanding the difference between syllabus progress and syllabus mastery*
    - *When to be concerned about the gap between the two numbers*
- Trying to determine what elements of the reports would be good to include in district year-end reports
- *Students are playing, but not making progress*
    - Educational Consultant is going to look into the issue
- *It is impossible to monitor all program students in the district at once*
    - Educational Consultant explains that some districts put intervention students in a single class to separate the data
    - ST Math cannot delineate special populations
    - Program department will need to work with teachers to create separate groups
    - Many of the suggestions are time consuming because the district has 7000 students in the program
- Student data cannot be separated by gender

Recommendations:

- *Would be useful to have a way to see which days students have played, not just last date played*
- *Downloadable reports are only available in PDF, would like to have them in Excel as well to separate program students from General Ed. students*
- *One participant suggests creating separate schools within a school to delineate special populations*

APPENDIX

Math Matters: Knowledge Capture Observation Reports (5)

Fairfield and Franklin Counties

Fairfield and Franklin Counties K-12 June Academy and Train the Trainer (All Districts)

Note: Field Observation Reports are coded to assure participant anonymity. For example, codes appear as a series of numbers and letters (1-9-MS-33) where the first number represents the county, the next number indicates the district, the letters refer to grade level (e.g., elementary school (ES); middle school (MS); and high school (HS); and K-12 (K-12-ALL), and the last number in the series signifies the school building.

ST Math June Academy Track A [SV: LB]
June 9, 2015 and June 17, 2015

Trainer: Dean Hoffman, Educational Consultant for MIND Research Institute (6/9); Anthony Reyoso, Educational Consultant for MIND Research Institute (6/17)
Participants: 21 teachers, 6 teachers
District Level Administrators: Ellen Cahill
Location: [1-6-ALL-ALL], [1-5-ALL-ALL]

Introduction:
Training session took place in a small auditorium, with participants seated at round tables. At each place was either an iPad Mini or a Chromebook and a training manual. Most of the participants in the session were elementary teachers, but there were a few middle and high school teachers in attendance (approximately 75% elementary). Class sizes range from 40 in a general education classroom to 10 for intervention/special education teachers (6/9).

Trainer introduces himself as Education Consultant, and provides his professional background and experience at MIND. There were a few technical issues at the beginning of the session, so the session began with the trainer located at the back of the room. After a few minutes, he moved to the center of the room so that he could interact with the participants more effectively. This training was Track A ST Math "June Academy" which consisted of training part 1 and training part 2 over six hours (6/9).

Overall, this training was very similar to the one that the regular Educational Consultant conducts, but this trainer spent more time explaining the different concepts in the training, especially password training, teacher mode, and linking students to a class. He also made more use of the "facilitation questions" during discussions with teachers. The discussion of data frames and data reports was shorter than what the Educational Consultant usually does because time was limited at the end of the session (6/9).

Some of the teachers arrived late because their e-mail confirmation instructed them to go to the wrong location (6/9).

The training session on June 17 took place in a small conference room. At each seat there was an iPad or a Chromebook, a training manual, and a facilitating questions handout. All the teachers in the session were elementary teachers. Trainer introduces himself as Education Consultant, and provides his professional background and experience at MIND. The trainer remained in the back of the room throughout the session due to technical constraints. This training was Track A ST Math "June Academy" which consisted of training part 1 and training part 2 over six hours. Overall, this training was very similar to the one that the regular Educational Consultant conducts and the

previous Track a session conducted on June 9, 2015. Two of the participants arrived four hours late because they were instructed to do so. One participant attended Track B training the week before, but wanted to know more about how to read and use data reports so the teacher signed up for the second Track A training session (6/17).

TRAINING (SUMMARY)

Trainer uses a presentation, which was projected on a screen at the front of the room. The morning session was roughly the same material covered in part 1 training, which focuses on **Learn** and **Teach**. The afternoon roughly covered **Monitor** and **Connect**. Participants learn the basics of the program, password training, the data frames, learn how to interpret data reports, play several sample games, and learn strategies for implementation. Four videos were shown throughout the session. The first shows a young infant using an iPad, the second was Matthew Peterson's TED talk, the third explained password training, and the final video demonstrated facilitation. At the end of the session, training participants took an online survey (6/9, 6/17).

Learn

- ST Math doesn't solve all of the kids' problems, but it's designed to show kids how to solve problems themselves
    - It's impossible to show every kid everything
    - Learning by playing games and solving puzzles
    - Self-paced, individual instruction
- We learn through the perception-action cycle
    - *Students are motivated by technology*
    - Teachers put the perception-action cycle to practice by playing "Upright JiJi"
    - Emphasize to students that they are testing hypotheses
- Teachers should be pushing students to "play the grey" – keeping students moving forward
- Teachers need to decide whether they want their students to play with headphones or audio off
- ST Math covers the Common Core math standards
    - Rigorous content and application of knowledge through high-order skills
- Program moves from visual to symbolic
- ST Math has a mouse tutorial for students having difficulty

Teach

- *Most of the teachers will not have access to computer labs*
    - *They will be using ST Math either iPads or Chromebooks in their classrooms*
- The function of the teacher is to bridge the language gap
    - Teach students the terms they need to know
    - Use facilitating questions

- Kids can play at home
- Explanation of "Think Before You Click"
- Demonstration of teacher mode and discussion about when to use it
    - Educational Consultant devoted a lot of time to this topic (6/17)
- Discussion about how objectives are organized
- Walk through of creating classes and linking students to a class
    - 30-40 minutes are needed for password training and linking students
- Provide age-appropriate manipulatives and materials for working through problems
- Video about password training
    - Passwords are not chosen by the students

Monitor

- If students don't log-out correctly, their progress may not be saved
- Teachers don't need to watch students the entire time, but they should walk around and check their screens
- Discussion about data frames and game toolbar
    - *How do I know if a student is playing a completed game?*
        - Look at the game toolbar, skinny bar shows previous progress
- Aim for 90 minutes per week (60 minutes for kindergarten) with 2-3% progress per week
- Discussion about prioritizing students who need help
    - What does it mean to "help" a student in ST Math
- Review of the different data reports
    - The bigger the bubble, the bigger the trouble
- Discussion of syllabus progress vs. mastery
- Explanation of module, game, and level

Connect

- Discussion of resources on website
    - Three teachers have completed web courses (6/9)
    - Trainer points out courses that may be helpful (6/9)
    - Game mats
    - Scope and sequence
    - Have students keep a JiJi Journal (6/17)
        - *Creates Convo about math*
        - *Good to add syllabus progress tracker chart*

Participant Engagement:

- *Teachers were hesitant to participate at the beginning of the session (6/9)*
    - Trainer emphasizes that he is not selling anything – he's there to help them utilize something they already have
- *One teacher was frustrated when she kept making errors on a puzzle (6/9)*

- *A few teachers kept playing after gaining access to the games (6/9)*
    - *One teacher got caught playing*
        - Trainer asked her to explain the game to him
- Two participants were highly engaged and asking questions during the training session (6/17)
    - The participants took notes throughout the training session
- One participant was on a social media site throughout the whole training session (6/17)
- The two late participants were not engaged during the training session (6/17)
- One teacher did not have an ST Math account (6/17)
    - Educational Consultant helped the teacher set one up
- One participant is interested in the research that ST Math is gathering (6/17)

Participant Concerns/Questions:

- *Kids know more about it than I do (6/9)*
- *Some kids get it, some don't (6/9)*
- *Question about students working together (6/9, 6/17)*
    - When working independently, students shouldn't be talking
        - Don't want students sharing answers
- *Kindergarten can't play at home until they get their full password after completing the first module (6/9)*
    - Letters on the website explaining kindergarten home access
- *Teacher set the entire syllabus for homework for summer break (6/9, 6/17)*
    - Trainer advises against doing that during the school year (6/9)
- *Students can only be assigned to one teacher (6/9)*
- *Some students with learning disabilities had trouble learning passwords (6/9)*
    - *Retraining multiple times wastes time*
    - *Teacher created password sheets for students to save time*
    - ST Math can make password sheets for a few students
    - If students are using the program regularly, it shouldn't be a problem
- *Students forgetting passwords over summer (6/9, 6/17)*
    - Trainer recommends just creating a new account for them (6/9, 6/17)
- Trainer recommends not promoting students because their progress is not saved from year to year (6/9)
- *Not available on smart phones (6/9)*
- Kindergarten does not do quizzes (6/9)
- *Students logging in from another school (6/9)*
    - This has been an issue at some schools because of how the district internet is organized
- *One teacher does not have a data reports page (6/9)*
    - Advised to try another computer and e-mail tech support if problem persists
- There is no way to see individual sessions' progress (6/9, 6/17)

- *I don't know if I understand the program well enough to be teaching it (6/17)*
- *One teacher did not have time in the school year to learn how to use ST Math (6/17)*
    - *District has other programs available that the teacher uses*
- *In the beginning of the school year teachers had a problem with finding the time for ST Math (6/17)*
- *One teacher believes that the reason she hasn't progressed as far as she would like with ST Math is because technology scares her (6/17)*
    - *The teacher is scared that her students know more about technology than she does*
    - *The teacher wants more experience with technology*
- *One teacher's gifted students became frustrated with ST Math during the school year because they can not skip content areas that they already know and are proficient on (6/17)*
    - *Students become frustrated when they get a 100 percent on the pretests and still have to play the level*
        - Educational Consultant suggests to tell the students that the pretest is not comprehensive and just a starting point. The games test more than what a 10 question pretest could do
- Teachers did not know about using ST Math as a whole group lesson (6/17)
    - *Two teachers say it is what has been missing in their instruction*
    - *Don't make it just a computer lab activity*
    - *Student will have great conversations about math*
    - *Teachers will know more about their students*
    - *Can be used as an introduction to a concept, a hook, or as a review before testing*
- Only one teacher knew how to use Teacher Mode (6/17)
    - *Integrate the program a lot more effectively using Teacher Mode*
- *One teacher has questions about reordering the curriculum this summer before school begins (6/17)*
- *One teacher does not like that you can not individualize the curriculum per student on ST Math (6/17)*
    - *That is why the teacher is a huge MobyMax fan*
- *Teachers question why a student who fails a posttest gets to move on (6/17)*
    - Educational Consultant explains that students get to move on because the completed the objective during the games
    - *Teachers could monitor the pretest and posttest scores and see if the testing skills are there; inform instruction*
- *Teachers spent a lot of time getting their students to learn their passwords (6/17)*
    - *Felt pressure from building administrator to quickly get the students logged on successfully*

    - *One teacher had to make password cards for all her students with cut out little pictures that represented their password characters*
    - *Did not have enough time to teach it*
- *Devices were locked down during testing which made access to ST Math not possible (6/17)*
- *Teachers didn't know their students could use manipulatives (6/17)*
    - *Wouldn't think to used manipulatives with a digital program, but it makes sense*
    - *Manipulatives would have been really good for one teacher when she was testing the games at the beginning of the training session*
        - *Trying to think what the kids will struggle with*
- *One teacher wants to know if the JiJi store already had specifically designed JiJi Journals (6/17)*
    - Educational Consultant says they are working on it
    - *Creates Convo about math*
    - *Good to add syllabus progress tracker chart*
- *Questions about creating a class (6/17)*
- *One teacher gets the password sharing alert because her students forget to log out at home (6/17)*
- *Questions about available training moving forward now that the implementation year is over (6/17)*
- *Questions about diving more into the data reports (6/17)*
    - Educational Consultant suggest contacting Twana to come out for a classroom visit and gives the participants her contact information
- *One teacher's biggest issues are technology and access to technology (6/17)*
    - *State testing puts all devices in the school on lock down*
    - *Would love to do ST Math for 90 minutes a week, but time is a big issue*
- *One teacher's big challenge was students getting bored with the program towards the end of the year (6/17)*
    - *Students would go to different sites and were not on ST Math when they were suppose to be*
    - *Hard to monitor all those iPads*
- *One participant really wants to see the PARCC test scores to make sure ST Math is really helping (6/17)*

Successes:

- After discussing Matthew Peterson video, trainer offers to show graphic with the most recent improvement numbers (6/9)
    - Grant Facilitator explains that they have seen 3-4x growth on STAR test
        - Improvements began after 8 weeks of using the program
        - Students have shown persistence when working through math
        - In schools where ST Math was only used for special education, students were disappointed that they weren't also using it during inclusion time

- All teachers in the training session have had experience with ST Math in their classroom (6/17)
- One teacher had her class get on for an hour on Wednesdays and made ST Math an option for 30 minutes on Fridays of each week (6/17)
- One teacher had a student create a JiJi prism for a school project (6/17)
- *ST Math is an engagement period for students with math (6/17)*
- *Teacher is excited about the syllabus progress screen because students will see it as a challenge and use it as motivation (6/17)*
- *One teacher's lower end students are really doing well with the program (6/17)*
    - *Has helped them in their general education curriculum much more than pre ST Math*

ST Math June Academy Track B [MGC/LB: JA BP]
June 9, 2015 and June 17, 2015

Trainer: Twana Young, Educational Consultant for MIND Research Institute
Participants: June 9 – 19 teachers (18 women, 1 man); June 17 – 23 teachers (22 women, 1 man)
Location: [1-5-ALL-ALL]

Introduction:
Track B training was a full-day module for educators who would like to incorporate ST Math into their classroom teaching. The first iteration of the module took place on June 9, and the module was duplicated with a different set of participants on June 17.

Each training module was broken into three consecutive sessions of training for ST Math. On June 9, teachers were at 6 long tables facing wall with projection. On June 17, teachers were at 6 round tables facing a screen with projection. At the beginning of both days, the Educational Consultant reviewed the goals of each session and the agenda. June 9 started by having teachers talk together and share out their goals for the day. June 17 started with teachers identifying their comfort level with ST Math. On June 9, most teachers reported being comfortable with ST Math. None reported feeling uncomfortable with it. On June 17, none of the teachers reported feeling completely comfortable with the program; approximately half of the teachers had received their first training in ST Math the previous week.

Teachers can continue their education in ST Math at another school, with virtual webinars and coaching, or an in-person class. If teachers take another class, they can earn continuing education credits.

TRAINING (SUMMARY)
The module was broken into three sessions: Mathematical practices to deepen students' understanding of math, instructional design in a blended learning environment, followed by lesson design and bringing JiJi into the classroom. The emphasis for this module is accountability for both teachers and students, which includes encouraging students to make their thinking visible and encouraging teachers to think about why they are using ST Math and their instructional strategies. Throughout the module, the Educational Consultant demonstrated a series of strategies that the participants could use in their classrooms to encourage higher-level thinking.

Teacher Goals for Module:
- *Learn how to integrate in an authentic way—not just use after instruction (6/9, 6/17)*
- *Use more for intervention piece (6/9)*

- *Find ways to help when students are struggling and are at point of just guessing (6/9)*
- *Align ST Math with Eureka (6/9)*
- *Integrating curriculum with ST Math (6/9)*
- *Using ST Math in the classroom (6/9, 6/17)*

Strategy Spotlight

- Foldables – students create a simple book to record what they are doing on ST Math
    - Encourage students to write and use skills, vocabulary words, concepts, questions, strategies, and notes
    - Demonstrates thinking process and learning
- "Pass the question" – Students answer questions about ST Math and teachers write them down before discussing them as a class
    - Demonstrates what they are learning, holds them accountable, and shows who needs help
    - Students illustrate higher thinking by critiquing, adding to, and correcting each other
- "Pick a Stick" – each table was assigned content standard and a method by which they had to explain that standard (describe, draw, compare, etc.…)
    - After the teachers present their standard, the other tables critique their response
- Accountable Talk – students listen, critique, question, and justify their answers for one another
    - Teaches communication, reasoning, and the ability to analyze
- Create an "I AM" poem - students complete a series of sentences which encourage them to delve more deeply into a specific topic
    - Assesses student knowledge and understanding
- "Five Sentence Summary" – students discuss a concept as a group and write five sentences explaining it
    - Useful at the end of a unit to review content
- Whip around – students say one word about a topic, can't repeat what another student said

Content Standards

- Teachers discuss the difference between content standards and practice standards
    - Practices include problem solving, reasoning/proof, and communication
    - Review of the eight math standards
        - Teachers discuss how these standards will apply in their math classrooms

- The Educational Consultant projected a game on the screen and demonstrated how teachers could use this game to stimulate student thinking and communication
    - Applied the activity to the practice standards and content standards
    - Teachers can encourage students to write their strategy and prediction of what they think will happen before trying it or sharing it with the group
        - Forces students to reflect on their thought process
        - Slows down students who are inclined to compulsively click without processing the game

Blended Learning

- Educational Consultant and teachers discuss blended learning and arrive at a shared definition
    - Blended learning incorporates technology to create an environment where learning is more differentiated but students are still held accountable
    - There must be a seamless blend of teacher instruction and online components that fits into a bigger instructional framework
        - Not a substitute for teacher instruction
- Different models for blended learning
    - Full class model
    - Half-online and half-class instruction
    - Station rotation model – ST Math station, teacher-led small group instruction, project/problem-based activity, collaborative activities, and/or math tasks
    - Flipped classroom model – students do instruction component at home, practice the concepts and engage in conversations at school
        - *Not everyone has internet at home*
- Teachers approach blended learning differently depending on the needs of their students, the content, and the teacher's instructional style
- Teachers should intentionally design the environment necessary for effective teaching and learning
    - Identify goals and create experiences that best fulfill those goals
- Define the sizes of groups by the resources available (5 computers = groups of 5)
- Scope and Sequence materials on ST Math Resources website can be used to help align curriculum, choose puzzles for instruction, and identify games for intervention time

Lesson Design

- Emphasis on focusing on standards, coherence across grades and within grades, and rigor
- Analyzing games

- As a full group, Educational Consultant examined a puzzle
  - Think about the math in the game
  - List possible materials (game mats, manipulatives) that can be used to model learning/thinking
  - Vocabulary words that are used
  - Try a few different levels
  - Think about questions to ask
- Analyze games in small groups using a guide sheet

Participant Engagement:

- *The teachers participated in collaborative activities with enthusiasm (6/17)*
  - *Only one teacher did not participate in collaborative activities (6/17)*
- *A few teachers continued playing games during instruction, but mostly stopped after completing a level (6/17)*
- *During lecture-heavy components teachers are less attentive (6/9)*

Successes:

- *Using ST Math is a great way to model mathematics with students (6/9)*
- *During "Whip Around" activity about half of the participants chose words that indicated that they were more cautiously optimistic or positive about blended learning (6/17)*
- *During "Whip Around" activity teachers were very positive about blended learning (6/9)*
- *Teachers recognize that struggle is a learning process (6/17)*
- *High School Intervention teacher has had a lot of success with "At Risk" students (6/17)*
- *Teacher likes the idea of students working with other students (6/9)*
- *Some teachers have tried blended learning to various degrees (6/9)*

Participant Concerns/Questions:

- *Not every student has internet at home (6/9)*
- *Teacher would like a list of good tools/manipulatives for different games (6/9)*
  - Educational Consultant recommends letting students choose from the toolkit for themselves *(6/9)*
  - *Game mats can be helpful (6/9)*
- *Teacher asks whether it is ever ok just to teach the algorithm if a student understands (6/9)*
  - Educational Consultant recommends unpacking the algorithm so they understand why it works *(6/9)*
- *IEP students sometimes get tripped up when the context of a question is changed (6/9)*
- *Some students lack foundational skills (6/9)*
  - *Hard to know where to devote energy (6/9)*

    - *Students are required to take test at grade level and exposure to grade level material might not help them catch up, but filling in foundational skills might help them answer questions correctly (6/9)*
    - Educational Consultant recommends starting them at grade level, but moving them back to fill in foundational material if necessary *(6/9)*
        - Test drive or create a specific intervention curriculum for that student *(6/9)*
        - Students don't have to stay at lower grade level forever *(6/9)*
- *One teacher commented that she was not very good at getting students to critique each other in the past (6/17)*
    - *She found a tool online called "Thinking Hats" which helped her build a strategy that her students could use (6/17)*
- *Some higher level students are better with perseverance than lower kids (6/17)*
- *Technology is not always available or working (6/17)*
    - *Kindergarten teachers' classes are often low priority for technology (6/17)*
        - *Lost access completely during PARCC (6/17)*
- Some teachers are nervous about integrating blended learning without following some established framework *(6/17)*
    - Educational Consultant recommends starting slowly with just one lesson or a unit *(6/17)*
    - Change the model depending on need *(6/17)*
- *Time is an issue (6/17)*
    - *Schools using Springboard require that a certain amount of time is allocated for Springboard (6/17)*
- *Blended learning is easier with a co-teacher – not always feasible (6/17)*
    - Educational Consultant recommends making sure that students are on a firm foundation before starting stations *(6/17)*
        - Give students practice with each station as a full group before starting rotations with smaller groups *(6/17)*
    - *Participant recommends that teachers hold students accountable for when the teacher isn't there (6/17)*
    - Use student helpers *(6/17)*
    - EC recommends using a JiJi stuck journal – demonstrating thinking, recording steps *(6/17)*
        - Teacher can check journal to see what has already been tried *(6/17)*
    - Color coded-cups for students to show if they need help *(6/17)*
- *Sometimes ST Math turns into an activity to fill extra time (6/17)*
- Educational Consultant is making a message board so teachers can share strategies *(6/17)*
- *Concern that ST Math content will not match instructional content (6/17)*
    - Program is self-paced, but it doesn't hurt to use a game students have already completed *(6/17)*

- *Concern about rearranging the curriculum (6/17)*
    - Does not reset progress *(6/17)*
    - Doing it too often disrupts learning *(6/17)*
    - Can be used to differentiate instruction – add intervention modules for lower students, front load difficult concepts for higher students *(6/17)*
- *Students working in lower grade material in teacher mode get upset when they see their progress isn't saved (6/17)*
    - Participant circumvents this problem by warning students *(6/17)*
- During "Whip Around" activity *(6/17)*
    - About half of the participants stated words that indicated that they were confused, overwhelmed, or unsure about the program *(6/17)*
- *High school intervention teacher questions how late spatial-temporal reasoning can be developed (6/17)*
    - It can always be improved *(6/17)*
- *Teacher asks about how she can use the JiJi Poster most effectively (6/17)*
    - EC suggests thinking about how it can best encourage student growth *(6/17)*
        - Always rewarding syllabus progress might demotivate struggling students *(6/17)*
        - Encourage students to set personal goals and celebrate those *(6/17)*

ST Math Train the Trainer – Day 1 [MH/LB]
[1-6-ALL-ALL]
Date June 23, 2015

Trainer: Caryn Wargocki & Brie Albert, Staff Development Specialists for MIND
MIND Research Representative: Doug Bruno
Participants: 21 math coaches, ST Math building/district leaders, and principals (18 women, 3 men)
Grant Facilitator: Ellen Cahill
Location: [1-6-ALL-ALL]

Introduction:
Participants were gathered from 8 districts and the [1-5-ALL-ALL]. All of the participating districts had two people at the training, with the exception of one large district, which sent 4 people. The training took place over 3 days, and at the end of the third day, teachers had to demonstrate leading a training session in order to become ST Math Certified trainers.

The training course utilized a variety of materials, including handouts, videos, Power Points, a Flash presentation, and an online manual. The online manual is still being finalized, so some of the links, videos, and simulations were non-functional. The participants received continued access to the online manual, a facilitator's manual, and the Flash presentation used for Part 1 training.

Train the Trainer covered material from Part 1 training.

TRAINING (SUMMARY)
The day began with a welcome message from the grant facilitator then the trainers introduced themselves. Participants were set up with the training materials, and the trainers gave an introduction to ST Math. The trainers modeled the first two sections of the "Learn" signpost – "Why ST Math?" and "What's Special About Our Games" – so participants could experience the training that they will be presenting to teachers in their districts.

At the end of the day, participants were given an opportunity to practice the sections of Part 1 training they may be assigned to complete their certification.

Challenges:
- *Movement to a digital manual may be a barrier for some teachers who would prefer a paper copy*
- *Some teachers expressed concerns about rostering and standard enrollment*
    - Students enroll themselves with student enrollment

        - Easier for teachers to move students into different grades
    - District rostering limits teacher ability to move students
    - Rosters may be incorrect if data sent to MIND is inaccurate
    - Adding students may take days because it must be done by MIND or the district administrator
- *Some young children and students with disabilities had difficulty learning passwords*
    - *Participant recommends creating password sheets for the students*
    - *Infrequent ST Math time in half-day kindergarten means passwords aren't being reinforced by repetition*
- *Students cannot use the same password for all educational programs at the school*
- *One district is eliminating pullout education program*
    - *Limits differentiated instruction for students with disabilities*
    - *May cause disruptions in classrooms*
- *Students who get 100% on the pretest sometimes lose their motivation because they still have to complete the games*
    - Trainers recommend giving students goals like completing the games without losing a JiJi
- When teachers first log into the system, they are now required to complete course 1 training
    - *Teachers may not have paid attention to course 1*
- *Some teachers in one district didn't buy into Common Core when it was adopted and were using a different model for teaching*
    - *This left them unprepared for ST Math and less willing to buy-into the program*
- *At many schools, teachers used ST Math time to catch up on grading and paperwork*
    - *Trainers will need to emphasize that they are pivotal in making the connections between math curricula and ST Math*
    - *Teachers should facilitate student learning during ST Math time*
- *One district is expanding ST Math usage during enrichment time so non-math teachers in the school will be monitoring ST Math sessions*
    - *Non-math teachers do not have ST Math log-ins*
        - *Won't be able to enter teacher mode with students*
    - *Concern that non-math teachers will be unwilling to facilitate during "non-instruction time"*
    - *Concern that administration will not force teachers to use the program with fidelity*
    - *Participants are going to develop a training session specifically for using ST Math during enrichment time*

Achievements:

- *Some participants thought students would have trouble with passwords but they didn't*
- *ST Math is helpful for students with dyslexia or language issues*

Best Practices:

- *When choosing games to introduce a topic in class, teachers should check other grade levels to find the best puzzle for the topic*
- *Teachers do not have to wait for an alert bubble to talk to students*
- *Teachers should make the bridge between ST Math and classroom mathematics*
  - Use full-class or small group ST Math instruction to correct misunderstandings
  - Encourage students to use math terminology
  - Develop strategies as a class to solve difficult puzzles and problems
- *Avoid letting students talk to one another during individual ST Math time*
  - *Students may learn strategies without understanding the concepts*
- *Teacher serves as facilitator during ST Math time*
- Create a toolbox of manipulatives to help students visualize problems
  - *Decide whether it will remain in computer lab or will be transported for every class*
  - *Create or find game mats*
- *Encouraging teachers to use and follow up with reports*

Recommendations:

- *Teach students a process for solving puzzles to dissuade random clicking*
- *One participant would have liked to have more emphasis on the common core practice standards in the training*

Participant Comments about ST Math:

- *Common core is more than fluency; it also emphasizes problem solving*
- *ST Math increases capacity of teachers and improves lesson delivery*
- *ST Math instills perseverance*
- *Other programs had incentives, such as game time or stickers, with ST Math students want to achieve for the sake of achieving*
- *Depending on the grade level, ST Math moves from visual to symbolic at different rates*
  - *4th grade moves to symbolic quickly*
  - *Kindergarten stays mostly visual*
- *The rest of ST Math is building a foundation for deep understanding, but the quizzes look like a worksheet*

ST Math Train the Trainer – Day 2 [MH/LB]
[1-6-ALL-ALL]
Date June 24, 2015

Trainer: Caryn Wargocki & Brie Albert, Staff Development Specialists for MIND
Participants: 21 math coaches, ST Math building/district leaders, and principals (18 women, 3 men)
Grant Facilitator: Ellen Cahill
Location: [1-6-ALL-ALL]

Introduction:
Participants were gathered from 8 districts and the [1-5-ALL-ALL]. All of the participating districts had two people at the training, with the exception of one large district, which sent 4 people. The training took place over 3 days, and at the end of the third day, teachers had to demonstrate leading a training session in order to become ST Math Certified trainers.

The training course utilized a variety of materials, including handouts, videos, Power Points, a Flash presentation, and an online manual. The online manual is still being finalized, so some of the links, videos, and simulations were non-functional. The participants received continued access to the online manual, a facilitator's manual, and the Flash presentation used for Part 1 training.

Train the Trainer covered material from Part 1 training.

TRAINING (SUMMARY)
The day began with a welcome message from the grant facilitator. The trainers modeled "First Day on the Software" and the "Teach" signposts so participants could experience the training they will be presenting to teachers in their districts.

After lunch, participants were given an hour to practice the "Teach signposts" and then they were assigned sections of the training that they would be presenting for certification.

At the end of the day, participants were given an opportunity to practice sections of Part 1 training they were assigned to complete their certification. Participants were allowed to either stay at the facility or practice at home. One district stayed to practice with their group, and a few people stayed to ask questions of the trainers before leaving.

Challenges:
- *Passwords*

    - *Concern that students already enrolled in the system will forget their passwords over summer*
        - Students can be retrained as long as they know their grade level and teacher from previous year
    - Passwords travel with the students, so every student who has used ST Math already has a password
    - *Some students pretend to forget their password or try to change their password*
    - *Some grade levels have not used ST Math much beyond password training – concern that they will not know passwords*
- *Teachers who move buildings will need to get a new log-in from MIND*
    - *Their credentials stay at their previous schools which means that the teacher list includes every teacher who has ever used ST Math at the school*
- *When classes are closed, they still remain on the teacher's list*
- *Teachers will not be able to see student's data from the previous year unless they print the data before it is erased by MIND*
- *Sometimes iPads will pick up other school's activation codes*
- *District rostering causes some issues*
    - Rostering limits teacher ability to move students
    - Rosters may be incorrect if data sent to MIND is inaccurate
    - Adding students may take days because it must be done by MIND or the district admins
- *Concern that middle school students who need a lot of remediation will be demotivated by their slower syllabus progress*
    - Students are given a diagnostic exam at the beginning of the curriculum
    - All students complete grade level objectives, but students who need remediation are given supplemental objectives
    - All progress is recorded, but progress will be slower for students who need more remediation because they have more units to cover
- *Teacher buy-in may be an issue in some districts unless administration enforces implementation*
- *Finding time in the schedule may be an issue*
    - *Kindergarten is half-day in some districts*
- *Lack of meeting and planning time in some districts*
    - *Some schools are making time for teachers to plan as grade levels but not emphasizing vertical alignment planning time*

Achievements:

- *In one district, middle school students started the program at the end of the year*
    - *The school achieved 1% completion*
    - *Students will be able to play over the summer*

Best Practices:

- *Kindergarten students may have trouble spelling their name and using the keyboard*
  - Tickets to JiJi can be used to help alleviate some issues
- *Teachers should assign seats for the computer lab*
  - *Will help keep students who may distract one another apart*
  - *Minimize arguments about who is sitting where*
  - *Student progress will be saved locally so data won't be lost if it isn't sent to MIND*
- *After completing password training, students should be directed to log out correctly and then log back in to make sure that students remember their passwords*
- *If there is a red bubble on the screen following the "today's accomplishments" screen, the data did not sent to ST Math*
  - Students should log back in immediately so their data can be resent
- *Make sure to allot ample time for the end of an ST Math session for students to reflect on what they've done*
  - *Give students a 2-5 minute warning*
- *Teachers should think about their comfort level for student talking during ST Math time*
- *Create a toolbox of manipulatives to help students visualize problems*
  - *Decide whether it will remain in computer lab or will be transported for every class*
  - *Create or find game mats*
  - *Put white paper in plastic sleeves to avoid having to transport white boards every day*
- *Teachers can create multiple groups and have the groups compete with one another*
- *Meet with building and district leaders to make an action plan for implementation and training for teachers*
  - *Track teachers to make sure that they are reaching goals*

Recommendations:

- *Some of the participants would like to receive further training*
- *Participants would like more planning time for horizontal and vertical alignment*
- *Participants would like to create an online space where they can share advice, tools, materials, and best practices with other districts and other T3 participants*
  - [1-5-ALL-ALL] is planning to create a space on their new website based on this suggestion

ST Math Train the Trainer – Day 3 [MH/LB]
[1-6-ALL-ALL]
Date June 25, 2015

Trainer: Caryn Wargocki & Brie Albert, Staff Development Specialists for MIND
Participants: 21 math coaches, ST Math building/district leaders, and principals (18 women, 3 men)
Grant Facilitator: Ellen Cahill
Location: [1-6-ALL-ALL]

Introduction:
Participants were gathered from 8 districts and the[1-5-ALL-ALL]. All of the participating districts had two people at the training, with the exception of one large district, which sent 4 people. The training took place over 3 days, and at the end of the third day, teachers had to demonstrate leading a training session in order to become ST Math Certified trainers.

The training course utilized a variety of materials, including handouts, videos, Power Points, a Flash presentation, and an online manual. The online manual is still being finalized, so some of the links, videos, and simulations were non-functional. The participants received continued access to the online manual, a facilitator's manual, and the Flash presentation used for Part 1 training.

Train the Trainer covered material from Part 1 training.

TRAINING (SUMMARY)
The day began with a welcome message from the grant facilitator. The trainers modeled the "Monitor" signposts and received a detailed look at how teachers should use each report to guide instruction and monitor progress

Before lunch, participants were given 35 minutes to practice their certification presentations.

At the end of the day, participants presented the "signposts" they were assigned in order to receive certification

Participant Goals for ST Math:
- *Get students to really understand math concepts beyond just knowing how to do it on worksheets*
- *Go deeper into the content standards*
- *Use it for intervention to help students who are struggling*
- *Allow students to work at own pace*

- *Want students to enjoy thinking mathematically*
- *Want students to have default mindset that they will be able to solve the problems*

Challenges:

- *In one district, elementary teachers have received training, but middle school has not*
    - *Non-math middle school teachers will be facilitating ST Math sessions during enrichment time*
        - *Teachers will need to be trained to facilitate student learning with ST Math during enrichment time*
        - *Will not be able to use teacher mode*
    - *School has planned as much as 120 minutes of ST Math time a day, three times per week*
        - *Participants are worried that students will lose interest*
- *One school would like to schedule longer ST Math sessions for older grades, but may be impossible because of contractual issues related to time for specials*
    - *Contractually specials are designated for teacher planning time; if extra time is given to some classes but not others, it may upset some teachers*
- *Participants are debating whether or not to reorder curriculum*
    - *Wait until a few weeks in to see if students need the curriculum reordered*
    - *Don't reorder too many times*
    - *Some teachers moved more challenging levels to later in the curriculum*
- *Some teachers are afraid to learn by doing; they want to have program explained and to have the manuals available to guide the way*

Achievements:

- *One teacher creates celebrations for students who have reached goals*
    - *Goals are not always related to syllabus progress*
- *Many students with IEPs have completed the program*
- *Teacher printed postcards for students as they progressed through the program*
    - *Students were motivated by the postcards*
- *Participants realize that mistakes are important*

Best Practices:

- *Participant is planning an ST Math refresher for their first PD day*
- *Teachers are planning to put JiJi on underutilized bulletin boards in the school*
- *Only one school in the district uses the program*
    - *Trainers are planning to share the program and show how it's been beneficial*
- *Participants want to emphasize that they will be available for teachers with questions*

- *One group is planning to create a repository of resources on the [County] ESC's website*
    - *Will allow participants to share materials and advice with one another*
- *Using students to sell the program to other districts thinking about adoption*
- *Find ways to encourage students to take the post-tests seriously*
- *Implement a procedure for how the students end a session*
    - *Give warnings at 5 and/or 2 minutes*
    - *If student is above 50% on the level they can complete it, lower than 50% back out*
- *Find what students need to be productive*
    - *One student with an IEP is most productive when he can monitor his progress using the puzzle pieces in Teacher Mode*
- *Emphasize to students that mistakes are important*
- *Establish a schedule for ST Math – knowing when kids can do it*
- *Factor in transition times into the ST Math schedule*
    - *Students should have 90 minutes of active playing time per week*
- *Create a toolbox of manipulatives*
    - *Put a white piece of paper in a sleeve so students don't have to transport white boards*

Recommendations:

- *Printed manuals are preferred because participants will be able to copy important pages for teachers*
    - *Some teachers may not be willing to go onto the website to print the manual themselves*
- *Participants would like to emphasize using the data reports*
    - *One participant created a Google Doc where teachers can share what's working and not working*
    - *A few districts are building competitions between schools to see who can get the most progress*
- *Trying to implement monthly meetings to keep development progressing*
- *Encouraging teachers to use proper facilitation techniques*

Participant Comments about ST Math:

- *JiJi should remain without a gender so students boys and girls aren't demotivated by thinking that math isn't a subject for their gender*
    - *Boys don't want to play a game with a girl character*
    - *Don't want girls to lose interest because math is for boys*

Math Matters:
MIND Research Institute
Quarterly Report on ST Math

July 30, 2015

SECTION 1 – PROJECT LEVEL OVERVIEW OF ST MATH IMPLEMENTATION PROGRESS... 3

SECTION 2 – MIND PROFESSIONAL DEVELOPMENT ACTIVITIES 11

SECTION 3 – EXTENDED USE OF ST MATH 15

SECTION 4 – FAIRFIELD COUNTY SCHOOLS.....16

FAIRFIELD COUNTY EDUCATION SERVICES CENTER..... 16
LANCASTER CITY SCHOOL DISTRICT..... 18
LIBERTY UNION-THURSTON SCHOOL DISTRICT..... 23
PICKERINGTON LOCAL SCHOOL DISTRICT *25*
WALNUT TOWNSHIP LOCAL SCHOOL DISTRICT..... *30*

SECTION 5 – FRANKLIN COUNTY SCHOOLS.....32

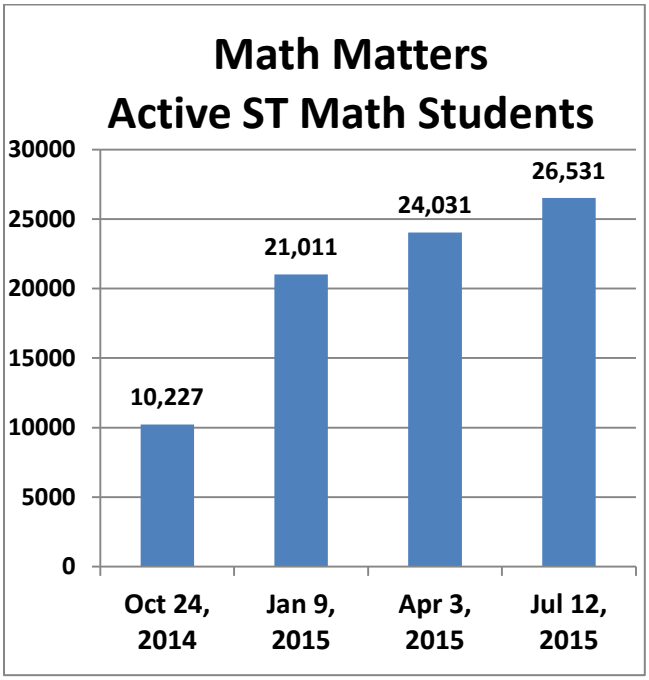
COLUMBUS CITY SCHOOL DISTRICT..... 32
GAHANNA-JEFFERSON CITY SCHOOLS 39
HAMILTON LOCAL SCHOOLS..... 41
HILLIARD CITY SCHOOLS..... 43
WORTHINGTON CITY SCHOOLS..... 49

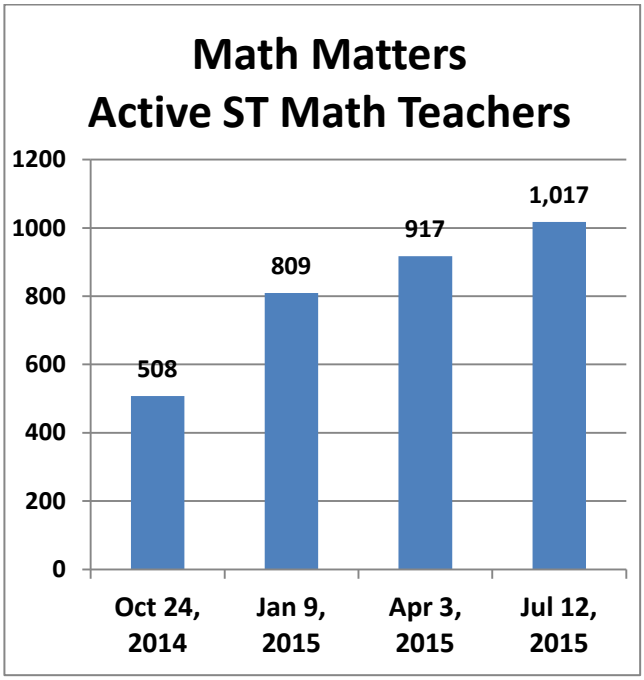
Section 1 - Project Level Overview of ST Math Implementation Progress

ST Math Implementation Statistics

The ST Math progress data and MIND Research Institute event activity presented in this report are based on program usage and the associated professional services delivered in support of the program as of July 12, 2015. At the close of the 2014-2015 school year, the Math Matters project included the participation of 1,017 teachers throughout the 10 districts/organizations implementing the ST Math program. A year-end total of 26,531 students from Kindergarten through High School were actively engaged in the use of ST Math. In total, 82 of the 100 schools originally selected to participate in the project achieved some level of active implementation of the ST Math program by school years end.

The growth of participation in the Math Matters project by both students and teachers was most dramatic in the months of November and December. As shown in the following graph below, the number of students actively using ST Math more than doubled over that time period and the number of teachers increased by 59%. The project has continued to sustain rather substantial growth in both teacher and student participation throughout the second half of the school year with the addition of 5,520 students and 208 teachers since January 9th.





*Dates above indicate the specific dates on which ST Math data was pulled for quarterly Math Matters reports

The delayed rollout of the hardware included as a component of the grant, as well as the necessary time required by schools/districts to setup those devices, can account for the dramatic increase in teacher/student participation with ST Math in the latter months of 2014. Once this additional hardware was in place, schools were better able to meet the time requirements necessary to implement ST Math in these buildings. As the implementation of ST Math took root in the originally identified grade levels of the schools/districts participating in the project, ST Math also began to gain appeal to grade levels outside the grades originally targeted for participation. As a result, MIND Research Institute delivered introductory training sessions for schools/districts throughout the entire year on an as needed basis (August to June) in order to continue expansion. Taking into account the 18 additional schools that were unable to begin the implementation of ST Math this year for various reasons, the Math Matters project still has substantial growth opportunities in the 2015-2016 school year ahead. As a component of End of Year meetings held with participating schools/districts, MIND's Consulting & Professional Services team has discussed opportunities for continued growth and expansion.

ST Math Usage Statistics

Column Definitions

Students – the total number of students that are actively using ST Math

Average Logins – the average number of times that students have logged into ST Math

Average Syllabus Progress – the average % of ST Math syllabus content that has been completed by students

Average Syllabus Progress per Login – the average % of ST Math syllabus content being completed per student login to ST Math

ST Math Statistics by District

District	Students	Average Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Columbus City SD	1717	14.3	6.3	0.4
Fairfield Co Ed Service Center	92	43.0	16.1	0.4
Gahanna-Jefferson City Schools	404	121.8	41.3	0.3
Hamilton Local SD	1448	19.6	18.4	0.9
Hilliard City SD	6619	45.5	33.7	0.7
Lancaster City School District	4109	41.6	25.1	0.6
Liberty Union-Thurston SD	479	67.0	53.7	0.8
Pickerington Local SD	6385	55.3	41.5	0.8
Walnut Township Local SD	304	63.5	47.6	0.7
Worthington SD	4974	23.2	18.9	0.8

ST Math Statistics by Grade Level

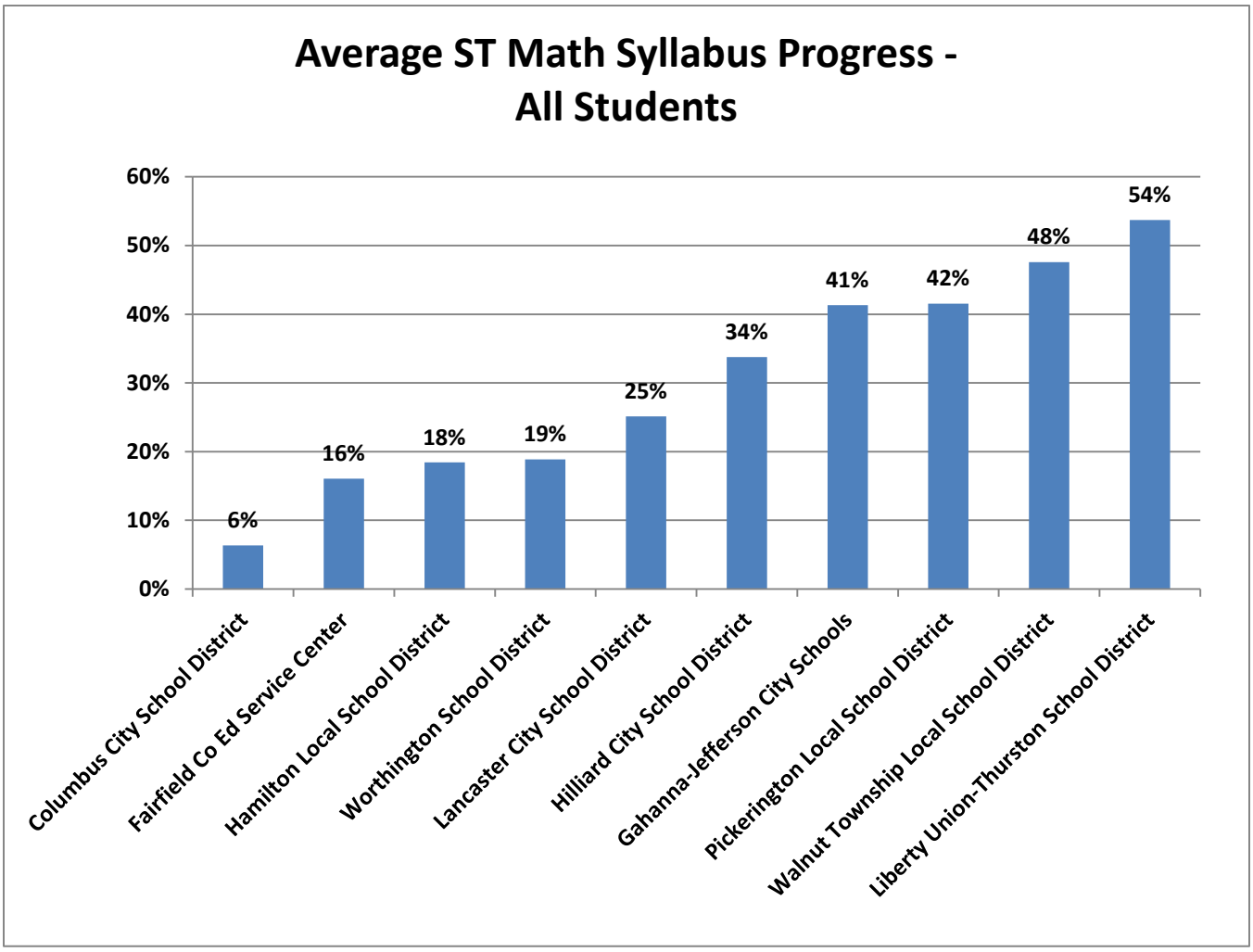
Grade Level	Students	Average Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Kindergarten	2904	33.1	35.0	1.1
First Grade	3587	45.2	41.8	0.9
Second Grade	3775	50.8	32.2	0.6
Third Grade	3448	53.6	37.3	0.7
Fourth Grade	3135	51.0	34.7	0.7
Fifth Grade	3210	41.4	29.9	0.7
Sixth Grade	1518	53.5	31.9	0.6
Sixth Grade MSS	853	42.4	15.0	0.4
Seventh Grade MSS	2003	18.3	4.8	0.3
Eighth Grade MSS	1760	8.3	2.3	0.3
High School Intervention	338	6.8	1.6	0.2

Breakdown of individual district progress by school and grade level is provided in Section 3. Along with the district specific ST Math Progress Data is a District Summary highlighting relevant background information on implementation, challenges faced, focus areas, identified next steps, and a history of MIND service activities.

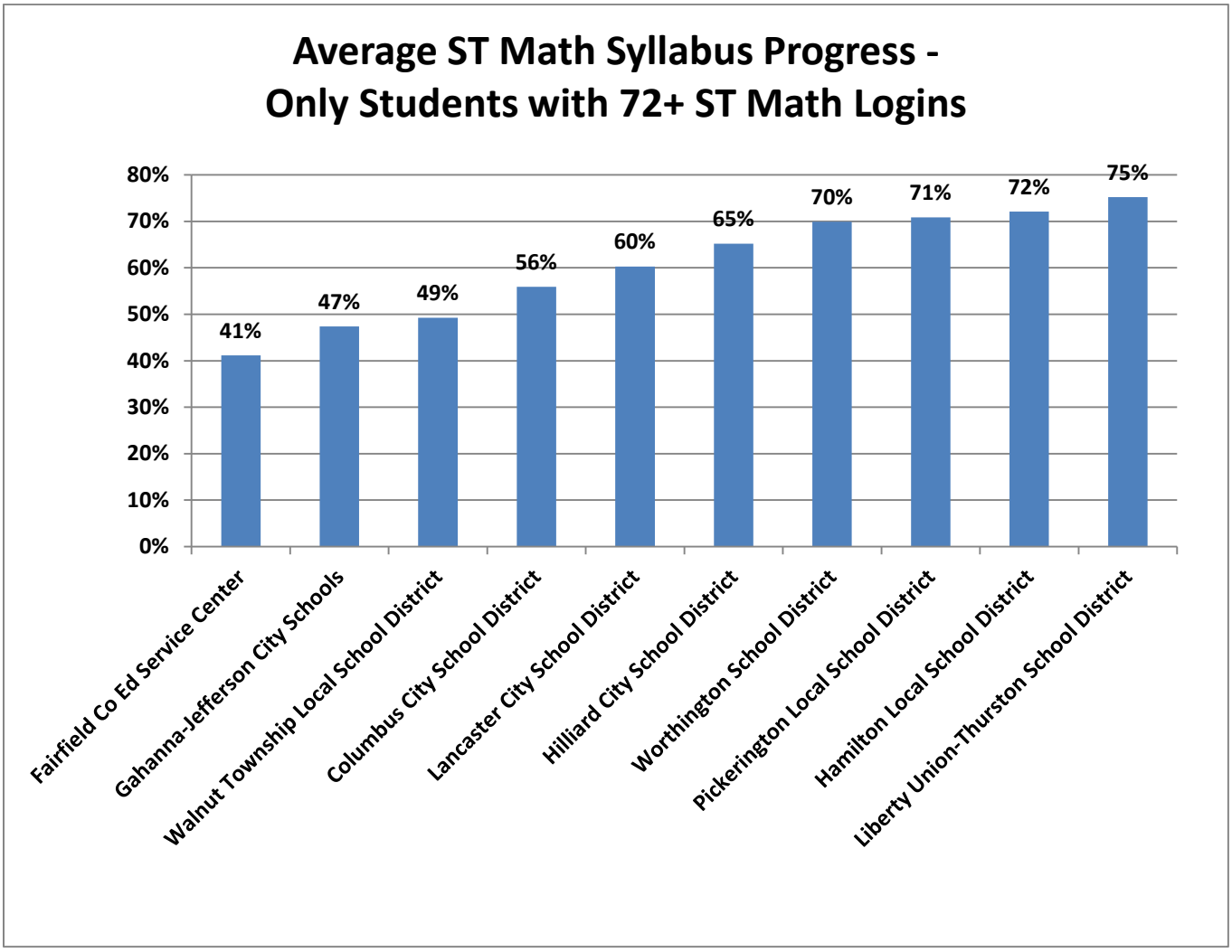
ST Math Progress

Syllabus Progress in ST Math is the measure used to track the percentage of assigned grade level content that a student, or (on average) a class/school/district, has completed within the ST Math program. MIND's suggested usage protocol for the ST Math program is 60 minutes per week for grades K-1 and 90 minutes per week for grades 2-6. This time can be met in 2-3 sessions per week, ideally scheduling sessions for no fewer than 30 minutes. This minimum suggested time allows students a sufficient opportunity to work through ST Math puzzles, games, or levels that present a significant challenge.

A delayed start in implementing ST Math as a regular component of a student or class's weekly schedule will greatly impact the ability to complete the assigned grade level's syllabus content over the course of the year. When following MIND's best practice suggestion of scheduling at least two ST Math sessions per week, we would expect student's to accumulate at least 72 ST Math logins per year. Based on the "First Login Date" that is recorded for each student using ST Math we are able to determine that the average starting date of the 26,531 students within the Math Matters project was December 5, 2015. A student starting ST Math on this date was approximately 40% through their current school year thereby greatly reducing their chances of completing their assigned ST Math content, even if they were following our suggested protocol. This is important to consider when looking at the overall averages for ST Math Syllabus Progress at the district and project level. Although these district averages are lower than we would like to see, they represent the average progress of students who started as early as August and as late as June.

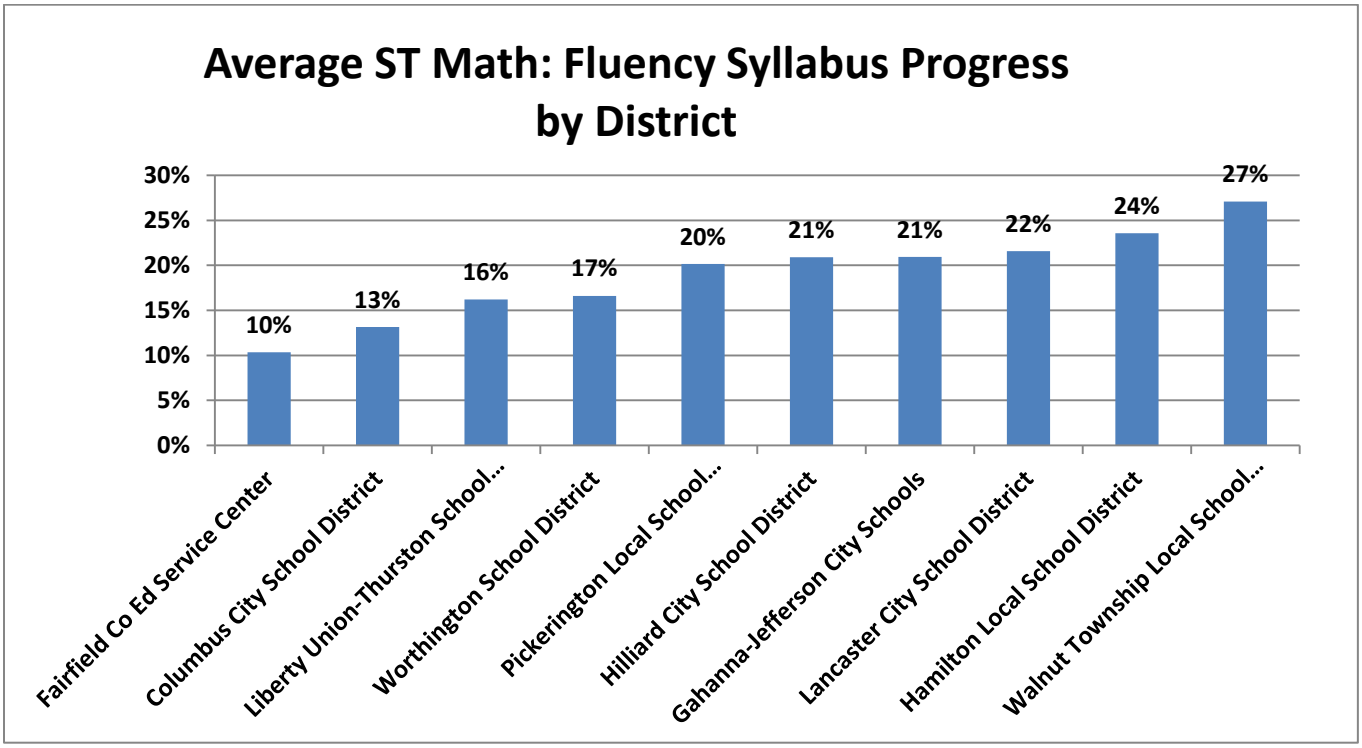


When considering only the students in the Math Matters project that recorded 72 or more ST Math logins over the course of the 2014-2015 School year, Average Syllabus Progress rates for each district increased dramatically as shown in the chart below. There were 4,979 students who were able to meet or exceed this target of 72 ST Math logins over the course of last school year. The dramatic difference in Average Syllabus Progress shown in this table illustrates the importance of schools getting off to an early start with ST Math and making it a consistent part of a student's weekly schedule. As with all new initiatives, first years offer the greatest challenges in adopting a new instructional program. MIND will continue to push participating districts to strive to obtain the recommended implementation protocols from the beginning of the school year.



ST Math: Fluency Progress

In addition to ST Math's grade level content all schools participating in the Math Matters project have access to the ST Math: Fluency program. ST Math: Fluency helps students achieve fact fluency (+, -, x, ÷) by incorporating adaptive training techniques, informative feedback, and actively controlled visual proofs. In several schools, Fluency use has been intentional as a precursor to student's regular use of ST Math grade level content or in some cases as an activity for early finishers or use at home. In most cases any use of Fluency has likely been unintentional due to the fact that it is accessible to students in ST Math even though active promotion of this component, nor specific training on it, have been rolled out in Year 1 of the Math Matters project. As schools have inquired about Fluency, MIND's Education Consultants have provided the basic information regarding availability and access to this module.



Active ST Math Teachers

The following table lists the number of teachers per school/district that had students actively using the ST Math program. The number of teachers using ST Math per school may vary widely based on the specific implementation plans decided upon at the school or district level. In many cases there are schools that have targeted a specific set of grade levels and in some cases specific subsets of their student population such as English Language Learners or Special Education students. Please note the key following this table that identifies schools/districts in which these implementation variations may occur.

District/Schools	Teachers
Columbus City School District *	**47**
Broadleigh Elementary School	1
Burroughs Elementary	1
Cassady Alternative Elementary School	3
Columbus Global Academy	2
Eakin Elementary School	1
East Linden Elementary School	1
Forest Park Elementary School	1
Gables Elementary School	2
Hubbard Mastery School	1
Innis Elementary School	10
Johnson Park Middle School	3
Medina Middle School	4
Mifflin Alternative Middle School	3
Mifflin High School	1
North Linden Elementary School	1
Northland High School	1
Northtowne Elementary School	5
Salem Elementary School	1
Siebert Elementary School	1
Valley Forge Elementary School	1
Wedgewood Middle School	2
Woodcrest Elementary School	1
Fairfield County Education Service Center **	**14**
Fairfield County Education Service Center	14
Gahanna-Jefferson City Schools	**8**
Gahanna Middle School - West	8
Hamilton Local School District ***	**42**
Hamilton Elementary School	38
Hamilton Middle School	4

District/Schools	Teachers
Hilliard City School District	**276**
Alton Darby Elementary School	16
Avery Elementary School	16
Beacon Elementary School	20
Britton Elementary School	18
Brown Elementary School	23
Darby Creek Elementary School	20
Hilliard Crossing Elementary School	21
Hilliard Horizon Elementary School	23
Hoffman Trails Elementary School	20
J W Reason Elementary School	20
Norwich Elementary School	19
Ridgewood Elementary School	22
Scioto Darby Elementary School	19
Washington Elementary School	19
Lancaster City School District ****	**135**
Cedar Heights Elementary School	20
East Elementary School	16
General Sherman Junior High School	10
Lancaster Senior High School	1
Medill Elementary School	15
Sanderson Elementary School	11
South Elementary School	12
Tallmadge Elementary School	10
Tarhe Elementary School	20
Thomas Ewing Junior High School	7
West Elementary School - OH	13
Liberty Union-Thurston School District	**19**
Liberty Union Elementary School	19
Pickerington Local School District	**262**
Diley Middle School	12
Fairfield Elementary School	20
Harmon Middle School	13
Heritage Elementary School	15
Lakeview Junior High	45
Pickerington Elementary School	18
Ridgeview Junior High School	41
Sycamore Creek Elementary	26
Toll Gate Elementary	27
Toll Gate Middle School	9
Tussing Elementary School	20
Violet Elementary School	16

District/Schools	Teachers
Walnut Township Local School District	**12**
Millersport Elementary School	12
Worthington School District ***	**202**
Bluffsview Elementary School	14
Brookside Elementary School	14
Colonial Hills Elementary School	16
Evening Street Elementary School	16
Granby Elementary School	13
Kilbourne Middle School	5
Liberty Elementary School	16
McCord Middle School	7
Phoenix Middle School	2
Slate Hill Elementary School	21
Thomas Worthington High School	4
Wilson Hill Elementary School	19
Worthington Estates Elementary School	12
Worthington Hills Elementary School	18
Worthington Kilbourne High School	4
Worthington Park Elementary School	14
Worthingway Middle School	7
Grand Total	**1017**

***Columbus City SD** - ST Math participants include only ESL Department teachers and teacher aides as per district plan to focus ST Math use with students being served by the ESL Department

****Fairfield Co ED Service Center** - ST Math participants include only Special Education teachers who are staffed at the schools in the county through the Fairfield County ESC

*****Hamilton Local SD** - ST Math participants include only elementary teachers K-3 and middle school math teachers. Teachers at the intermediate school are deferring the use of the program to the 2015-16 year due to limited devices and technology issues.

******Lancaster City SD** - ST Math participants at the junior high include only some of the math teachers and the Response to Intervention teacher. The high school ST Math participant is the Intervention teacher.

*******Worthington SD** - ST Math participation at the middle schools has involved teachers who have elected to use the program. During the 2015-16 school year, the district has accounted for the required time and is designing a math extension course to use ST Math.

Section 2 – MIND Professional Development Activities

The MIND Research Institute has continued to deliver timely professional development offerings to schools based on their desired Professional Development plan, their progress through the initial stages of implementation, and on specific needs as determined through consultation with staff and administration. MIND has been flexible in offering our partner schools the necessary professional development content through a delivery mode that suits their current needs. In addition to the local Education Consultant in the Columbus area, MIND has brought in additional personnel from across the country on multiple occasions to support schools when the demand for assistance has been high. The following are descriptions of MIND events that may be found in the Event History for individual districts:

- **Intro to ST Math Part 1** – initial training focusing on the background of ST Math, analysis of ST Math games, content structure, start-up procedures, roles & responsibilities, and basic reporting
- **Intro to ST Math Part 2 –** follow-up training generally held 1-2 months after startup that concentrates on the utilization of reports, facilitation with teacher mode, and making connections between ST Math and classroom instruction (content also able to be covered via Webinars)
- **Site Visit –** onsite visits based on individual needs expressed by schools which may include any of the following: start-up support during first day in the lab, technical troubleshooting, modeling of student facilitation strategies, and making classroom connections with ST Math. See description below
- **Data Meeting –** meetings most likely scheduled with school/district leadership to review the school level data in order to identify and plan to address any impediments to successful implementation of ST Math
- **Self-Guided Courses –** self-paced online courses available on the ST Math Teacher Resource Site that comprise the necessary content knowledge needed to begin implementing ST Math

June Academy Sessions hosted by Fairfield ESC

The MIND Research team in Ohio was able to make additional Professional Development courses available to any interested teachers who participated in the Math Matters project through Fairfield ESC's June Academy event offerings. A variety of sessions were created in order to meet the needs of a broad user base of ST Math teachers that had grown tremendously over the course of the school year. The participants in these June Academy sessions may have had anywhere from a full year of experience implementing ST Math to potentially only a few weeks/months since they had started implementing the program. Thus the need to create multiple tracks in order to effectively support teachers based on varying needs.

Track A sessions were designed specifically for those teachers who had no prior experience implementing ST Math or those who considered themselves novice users with the program. Track A was split into two sessions. Session one mirrored the Intro to ST Math Part 1 training session. In this training the teachers learned the neuroscience behind ST Math and experienced the program for themselves. The teachers analyzed a game and discovered the way the mathematics concepts were developed in a game. Session two mirrored the Intro to ST Math Part 2 training session. This training focused on teaching teachers about the various reports they have access to within the ST Math teacher console. They engaged in discussions around the data and how to use that information to address student needs.

Track B sessions were designed for the teachers who were comfortable using ST Math and were ready to go to the next level. The first session was titled: *Mathematical Practices to Deepen Students Understanding of Mathematics*. In this session, teachers were engaged in activities to deepen their mathematical understanding about the mathematical practice standards. Discussion centered on how teachers could integrate ST Math into their curriculum. Strategies for asking questions and engaging students in activities to promote the thinking habits inspired by the mathematical practices were also shared.

The second session was titled: *Instructional Design in a Blended Learning Environment.* In this session, teachers learned about instructional models for blended learning. The teachers were then challenged to think about goals for blended learning, identify a model that best fits their classroom, and determine how they can intentionally design the environment in their classroom to help maximize the effectiveness of the ST Math program.

The third session was titled: *Lesson Design and Bringing JiJi into the Classroom.* In this session, teachers engaged in analyzing ST Math games. Discussions and activities were centered on how to integrate ST Math into the curriculum, into small group instruction for intervention, and finally how to use ST Math to help bridge understanding. Strategies for designing classroom lessons around ST Math games to promote deeper student understanding were also discussed.

Train the Trainer Certification Workshop hosted by Fairfield ESC

With the goal of building sustainability for the use of ST Math, the MIND Research Institute staff conducted a three-day train-the-trainer certification workshop from June 23-25th for 21 attendees representing the districts participating in the Math Matters project. The candidates chosen by their districts to participate in the workshop were primarily classroom teachers or math coaches. Before the three-day training, candidates were asked to complete the first four of MIND's Self-Guided Online Courses in order to review the basics about ST Math and to become more familiar with components they'd be using in the new online version of the ST Math Training Manual. Attendees came to these sessions with a wide variety of background knowledge about ST Math ranging from having only recently completed the online courses to having been strong implementers of ST Math over the past year.

The curriculum included activities to get the participants comfortable with ST Math and the online manual, modeling of the Intro to ST Math workshop, practice sessions with coaching, sessions covering best practices for the first day's use of ST Math, activation and tech components, and an overview of the available ST Math reports. On the final day, each candidate presented for 15 minutes in front of their peers and an MIND Research Institute trainer. Each person was also given an online personal check for comprehension to help them determine if they fully understood ST Math. 19 of the 21 attendees were able to earn certification as a trainer of ST Math and are now capable of and equipped to deliver MIND's three-hour introductory workshop on ST Math. In addition to obtaining MIND's certification as an ST Math trainer, participants will have access to quarterly online Q&A sessions with MIND Technical Support representatives and a yearly webinar outlining changes to the ST Math program and/or support resources that will be made available to them.

Self-Guided Course Completions by District/School

The following table lists the total number of Self-Guided Courses that have been completed by individual teachers in each school or district. A Self-Guided Course is considered completed when an individual teacher records a passing score (80% or better) on any End of Course Quiz. Course 1 does not contain an End of Course Quiz and is therefore not tracked. Courses 1-4 are recommended for completion by teachers prior to starting the use of ST Math with students.

District/School	*2*	*3*	*4*	*5*	*6*	*7*	Total
COLUMBUS CITY SCH DISTRICT	**7**	**1**	**2**				**10**
COLUMBUS GLOBAL ACADEMY	1						1
EAST LINDEN ELEMENTARY SCHOOL	1						1
INNIS ELEMENTARY SCHOOL	1						1
MEDINA MIDDLE SCHOOL	1		1				2
MIFFLIN HIGH SCHOOL	1	1	1				3
WEDGEWOOD MIDDLE SCHOOL	1						1
WOODCREST ELEMENTARY SCHOOL	1						1
FAIRFIELD CO ED SERVICE CENTER	**6**	**5**	**4**				**15**
FAIRFIELD CO ED SERVICE CENTER	6	5	4				15
GAHANNA-JEFFERSON PUBLIC SD	**2**	**1**	**1**				**4**
GAHANNA MIDDLE SCHOOL-WEST	2	1	1				4
HAMILTON LOCAL SCHOOL DISTRICT	**45**	**43**	**46**	**17**	**13**	**10**	**174**
HAMILTON ELEMENTARY SCHOOL	45	43	46	17	13	10	174
HILLIARD CITY SCHOOL DISTRICT	**6**	**3**	**4**				**13**
AVERY ELEMENTARY SCHOOL			1				1
BRITTON ELEMENTARY SCHOOL	1						1
HILLIARD HORIZON ELEM SCHOOL	1						1
NORWICH ELEMENTARY SCHOOL	1	1	1				3
RIDGEWOOD ELEMENTARY SCHOOL		1	1				2
SCIOTO DARBY ELEMENTARY SCHOOL	2	1	1				4
WASHINGTON ELEMENTARY SCHOOL	1						1
LANCASTER CITY SCHOOL DISTRICT	**10**	**9**	**6**	**4**	**2**	**2**	**33**
CEDAR HEIGHTS ELEM SCHOOL	2	1	1				4
EAST ELEMENTARY SCHOOL	1	1	1				3
GENERAL SHERMAN JR HIGH SCHOOL				1			1
LANCASTER CITY SCHOOL DISTRICT				1		1	2
LANCASTER SENIOR HIGH SCHOOL	1	2	1	1	1		6
SANDERSON ELEMENTARY SCHOOL	3	2	1				6
TARHE ELEMENTARY SCHOOL	1						1
THOMAS EWING JR HIGH SCHOOL	1	2	1	1	1	1	7
WEST ELEMENTARY SCHOOL	1	1	1				3

District/School	*2*	*3*	*4*	*5*	*6*	*7*	Total
LIBERTY UNION-THURSTN SCH DIST	**9**	**8**	**8**	**8**	**8**	**7**	**48**
LIBERTY UNION ELEMENTARY SCH	9	8	8	8	8	7	48
PICKERINGTON LOCAL SCHOOL DIST	**106**	**94**	**85**	**60**	**38**	**30**	**413**
DILEY MIDDLE SCHOOL	14	13	13	5			45
FAIRFIELD ELEMENTARY SCHOOL	9	6	6	5	5	5	36
HARMON MIDDLE SCHOOL	9	6	6	4	2	1	28
HERITAGE ELEMENTARY SCHOOL	10	9	6	5	2	2	34
PICKERINGTON ELEMENTARY SCHOOL	11	10	5	5	3	3	37
PICKERINGTON LAKEVIEW JR HS	1	1	1				3
PICKERINGTON LOCAL SCHOOL DIST	4	3	2	1			10
PICKERINGTON-RIDGEVIEW JR HS	1		1				2
SYCAMORE CREEK ELEM SCHOOL	12	11	12	12	11	9	67
TOLL GATE ELEMENTARY SCHOOL	7	8	7	7	7	5	41
TOLL GATE MIDDLE SCHOOL	11	10	12	9	1	1	44
TUSSING ELEMENTARY SCHOOL	14	14	13	6	6	4	57
VIOLET ELEMENTARY SCHOOL	3	3	1	1	1		9
WALNUT TWP LOCAL SCHOOL DIST	**17**	**16**	**16**	**14**	**12**	**10**	**85**
MILLERSPORT ELEMENTARY SCHOOL	17	16	16	14	12	10	85
WORTHINGTON SCHOOL DISTRICT	**10**	**6**	**5**	**3**	**2**	**2**	**28**
GRANBY ELEMENTARY SCHOOL	1	1					2
LIBERTY ELEMENTARY SCHOOL	3	1					4
PHOENIX MIDDLE SCHOOL	1	1	1	1			4
SLATE HILL ELEMENTARY SCHOOL		1	1				2
WILSON HILL ELEMENTARY SCHOOL	1	1	1	1	1	1	6
WORTHINGTON PARK ELEM SCHOOL	3	1	2	1	1	1	9
WORTHINGWAY MIDDLE SCHOOL	1						1
Grand Total	**218**	**186**	**177**	**106**	**75**	**61**	**823**

Section 3 – Extended Use of ST Math

General Summer Suggested Use

In May 2015 a summer packet was provided to each of the ST Math teachers in the Math Matters districts. The packet included a letter for parents with a summary of what ST Math is and how their child progresses through the program. The letter discussed the visual feedback that students will receive from ST Math and how their child can use that information to analyze their strategy and solve the problem they are presented with. In addition, the letter included facilitating questions that parents can ask their children if they get stuck on a puzzle as well as questions they can ask their child to help them explain what they are learning. Finally, the letter included general ideas that parents can do at home in order to promote mathematics for their child.

In addition to the parent letter, a summer challenge calendar was sent home. This calendar was a tool that students can use to log the number of minutes they play ST Math at home over the summer break. The idea is that they would bring this calendar to school with them in the fall so their teacher can see all the work they did this summer on ST Math.

Columbus City Schools Summer School

Columbus City Schools Summer School Administration requested support for using ST Math during their summer school program at two sites, Oakmont Elementary and Gables Elementary. The Education Consultant and an Instructional Designer from MIND Research Institute put together a summer blended learning instructional framework for grades K-5 to be piloted in these schools. In addition to the framework, weekly lessons and station activities were created. There were four stations (ST Math Station, Intervention Station, Numeracy Games Station, and Design Challenge Station). Participating teachers were provided a two-hour training to learn ST Math and get an understanding of the summer curriculum that had been created. The Education Consultant and Instructional Designer visited the school sites over the five-week program. They worked with teachers to model lessons as well as provide support for their understanding on how to facilitate students who are struggling with ST Math.

During the summer school program, the students engaged in using ST Math independently and as a whole class lesson. Students discussed strategies for solving problems and kept a math journal of the problems they have been solving. Teachers were encouraged to use ST Math games and game mats to support intervention activities with students. Students were also provided with the opportunity to create their own game that focused on solving mathematical problems. The student games were very thoughtful and creative. They were able to share what they have learned in ST Math this summer.

Section 4 – Fairfield County Schools

Fairfield County ESC

Summary

Fairfield County ESC completed the year with 92 active students on the program and with 16.1% average syllabus progress. The ESC employs special education teachers across several districts in central Ohio. Some of these teachers work in schools that are not part of the grant making them the only ST Math user those sites.

All of these teachers work with Special Education students. The teachers were provided two evening trainings and the necessary technology in order to implement the program effectively. The teachers like the program and feel that ST Math has been beneficial for their students. During the 2014-15 school year, the MIND Education Consultant provided information on how to use the resources such as the ST Math Syllabi and Scope and Sequence Documents in order to support planning for accommodations. Teachers were also advised on proper student placement strategies within the ST Math Curriculum. There is however, still a need for additional strategies to effectively meet the needs of their student population with ST Math.

Challenges

In reflecting on the 2014-15 school year, one challenge is to provide more targeted support to the Special Education students served by these teachers. The Education Consultant will support the teachers in developing a toolbox of strategies for supporting their students using ST Math. Several strategies have been shared during trainings, but there is a need for strategies to address more specific needs. (Ex. Autism). The Education Consultant is conducting research to determine best practices to support non-verbal and autistic students.

Reflection and Next Steps

During the 2014-15 school year, teachers had the opportunity to get acclimated to the program and learn how it can help achieve their math goals. As we move forward additional training is needed to identify specific strategies to support their students and work toward meeting their IEP goals. The teachers need more training in how to use the ST Math game mats, the use of manipulatives to model mathematics, and how to integrate the Mathematical Practice Standards into their math instruction.

The Fairfield County ESC has a new Curriculum Coordinator who will be working closely with these teachers. The Education Consultant will partner with the Curriculum Coordinator to plan support for the 2015-16 school year. The support will include data monitoring, site visits and additional training as needed.

ST Math Progress Data

District ST Math Progress by School

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Fairfield County Education Service Center	**92**	**43.0**	**16.1**	**0.4**
Fairfield County Education Service Center	92	43.0	16.1	0.4

School ST Math Progress by Grade

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Fairfield Co Ed Service Center	**92**	**43.0**	**16.1**	**0.4**
Kindergarten	32	39.3	17.0	0.4
First Grade	23	51.0	23.1	0.5
Second Grade	6	90.3	25.3	0.3
Third Grade	13	29.2	12.6	0.4
Fourth Grade	2	67.0	21.8	0.3
Sixth Grade	2	20.5	9.7	0.5
Seventh Grade MSS	2	130.0	6.5	0.0
Eighth Grade MSS	5	1.8	0.0	0.0
High School Intervention	7	23.0	1.5	0.1

Fairfield County Education Service Center - Event History

Date	School/District	Event Type
11/11/2014	FAIRFIELD CO ED SERVICE CENTER	Intro to ST Math Training Part 1
1/13/2015	FAIRFIELD CO ED SERVICE CENTER	Intro to ST Math Training Part 2
7/7/2015	FAIRFIELD CO ED SERVICE CENTER	Data Meeting

Summary

Lancaster City Schools completed the year with 4,109 active students on the program with 25.1% average syllabus progress. The 2014-15 school year was the initial year of usage for ST Math for the district. Each school varied in their implementation. The elementary schools were the most successful and were able to provide students with the most access to the program. The elementary schools had a grade level shut down to provide extra support in reading and math for students. This is outside of their regular math class. Some schools chose to use this time specifically for ST Math.

The Education Consultant worked closely with the Director of Human Resources to implement a professional development plan that best met the needs of the district. The district began by training key teachers in the fall. Substitutes were provided for this half-day session with the Education Consultant. In December, a series of three after school training sessions were conducted for teachers in the district. The focus was on understanding reports and helping struggling students. Throughout the year, the Education Consultant and other representatives from MIND Research Institute conducted site visits to various buildings to provide on the ground coaching support, answer questions, model lessons, present to staff, review data, and provide additional training. The balance of in person training and job embedded training provided an opportunity to support teachers in their professional understanding and use of the program.

Challenges

The biggest challenge this year was technology; devices and connectivity. The district received Chrome Books, but were unable to distribute all of them for use this year. The plan is for them to be ready for schools next year. There will be three new elementary schools that will be opening to replace buildings that were closed at the end of this year. The district will be providing those buildings with Chrome Books at the beginning of the year to support their usage of ST Math.

The usage was very low in the junior highs this year. Part of the challenge the teachers faced was time to use the program. One strategy to increase usage would be to provide opportunities for the student to use ST Math as part of the classroom instruction. In order for this strategy to work the junior high schools will need of more devices. The junior high schools have a math achievement class for students who are at risk in mathematics. This class provides an opportunity for the students to use ST Math. The Education Consultant has offered to meet with the junior high teachers and principals at the start of the school year to help them come up with a strategy for a successful implementation.

Another challenge was managing all of the resources that were available to teachers as well as implementing it in a way that is meaningful. During the 2014-15 school year, the district was using ST Math in addition to another math program. It became difficult for some teachers to utilize both programs. The plan for the 2015-16 school year is that teachers will no longer use the other math program, but instead focus their usage on ST Math. In the June Academy training, teachers were provided with strategies and suggestions for making implementation of ST Math more meaningful. This will be an area that the Education Consultant will continue to support the teachers and administrators on.

Reflections and Next Steps

During the 2014-15 school year, several things were accomplished. Throughout the district, teachers and principals have spent this year getting acclimated to the program. The schools were all introduced to ST Math and every Elementary student was able to become an active user of ST Math. Through training and support opportunities each teacher now has a basic understanding of the program and what it is designed to do. There is a lot of excitement in the buildings around ST Math. Teachers and students are engaged in the program. One of the schools has participated in MIND Research Institute JiJi Believer competition and received a visit from JiJi. Students and teachers are excited about the opportunity for students to work with ST Math this summer to continue to strengthen their skills.

Moving forward the plan is to think about frameworks and strategies that teachers can use to maximize their use of ST Math. That work began this summer at the June Academy where some Lancaster City Schools teachers were in attendance. As part of the academy they began discussing how to take their use of ST Math to the next level in areas like integration with the new standards, creating a blended learning model and in designing lessons around ST Math puzzles. The Education Consultant will continue to work with the teachers and the district in developing in these areas.

The district will have a math coach for the 2015-16 school year. The Education Consultant will work with the math coach to provide targeted support to the schools. The elementary buildings in the district will have one K-1 math specialist and a grades 2-5 math specialist. The selected teachers that attended MIND's recent Train the Trainer session will provide training for these new specialists and other new staff with the Education Consulting providing any additional support that is needed. In addition, the Education Consultant will conduct two fluency webinars and establish a Google calendar for the principals to schedule site visits with the Education Consultant. This will allow principals to strategically use the support of the Education Consultant to meet the needs of their building. Overall the year was pretty successful. In spite of technology issues within the district, teachers and students were and remain very excited about the ST Math program.

ST Math Progress Data

District ST Math Progress by School

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Lancaster City School District	4109	41.6	25.1	0.6
Cedar Heights Elementary School	380	45.8	26.2	0.6
East Elementary School	375	47.6	28.0	0.6
General Sherman Junior High School	604	13.0	3.5	0.3
Lancaster Senior High School	8	24.0	5.9	0.2
Medill Elementary School	420	64.8	39.1	0.6
Sanderson Elementary School	299	75.3	56.4	0.7
South Elementary School	319	55.6	29.4	0.5
Tallmadge Elementary School	297	50.6	30.5	0.6
Tarhe Elementary School	438	23.3	20.2	0.9
Thomas Ewing Junior High School	514	17.2	4.2	0.2
West Elementary School	455	57.7	39.3	0.7

School ST Math Progress by Grade

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Cedar Heights Elementary School	380	45.8	26.2	0.6
Kindergarten	47	25.1	26.2	1.0
First Grade	76	29.7	20.1	0.7
Second Grade	84	61.9	32.5	0.5
Third Grade	62	71.1	36.2	0.5
Fourth Grade	57	61.5	30.5	0.5
Fifth Grade	54	15.7	9.4	0.6
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
East Elementary School	375	47.6	28.0	0.6
Kindergarten	65	25.7	29.4	1.1
First Grade	58	33.9	18.4	0.5
Second Grade	71	79.6	31.7	0.4
Third Grade	69	33.3	20.0	0.6
Fourth Grade	64	79.6	46.4	0.6
Fifth Grade	48	24.4	19.5	0.8
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
General Sherman Junior High School	604	13.0	3.5	0.3
Sixth Grade MSS	206	9.1	1.7	0.2
Seventh Grade MSS	237	18.7	6.0	0.3
Eighth Grade MSS	161	9.8	2.3	0.2
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Lancaster Senior High School	8	24.0	5.9	0.2
High School Intervention	8	24.0	5.9	0.2
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Medill Elementary School	420	64.8	39.1	0.6
Kindergarten	55	54.5	38.4	0.7
First Grade	69	53.8	39.1	0.7
Second Grade	54	66.4	36.0	0.5
Third Grade	73	127.4	66.3	0.5
Fourth Grade	86	51.1	32.8	0.6
Fifth Grade	83	39.0	24.3	0.6
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Sanderson Elementary School	299	75.3	56.4	0.7
Kindergarten	47	65.0	63.5	1.0
First Grade	46	39.6	36.2	0.9
Second Grade	62	85.7	52.7	0.6
Third Grade	58	81.2	54.2	0.7
Fourth Grade	46	98.6	66.4	0.7
Fifth Grade	40	77.0	68.6	0.9

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
South Elementary School	319	55.6	29.4	0.5
Kindergarten	58	27.5	22.4	0.8
First Grade	63	53.4	32.9	0.6
Second Grade	45	76.6	31.9	0.4
Third Grade	66	57.0	31.1	0.5
Fourth Grade	39	94.0	41.6	0.4
Fifth Grade	48	39.8	18.6	0.5
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Tallmadge Elementary School	297	50.6	30.5	0.6
Kindergarten	49	16.7	19.4	1.2
First Grade	52	26.9	27.1	1.0
Second Grade	41	87.8	40.7	0.5
Third Grade	56	61.3	30.3	0.5
Fourth Grade	50	64.2	31.4	0.5
Fifth Grade	49	52.5	36.1	0.7
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Tarhe Elementary School	438	23.3	20.2	0.9
Kindergarten	75	27.9	32.6	1.2
First Grade	92	27.1	29.4	1.1
Second Grade	69	22.4	16.8	0.8
Third Grade	74	25.4	17.1	0.7
Fourth Grade	59	26.2	16.3	0.6
Fifth Grade	69	9.6	4.3	0.4
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Thomas Ewing Junior High School	#NAME?	17.2	4.2	0.2
Sixth Grade MSS	198	25.0	6.7	0.3
Seventh Grade MSS	139	16.4	4.3	0.3
Eighth Grade MSS	177	9.0	1.4	0.2
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
West Elementary School	455	57.7	39.3	0.7
Kindergarten	100	73.8	54.2	0.7
First Grade	84	51.3	51.8	1.0
Second Grade	74	122.8	73.2	0.6
Third Grade	69	21.2	9.7	0.5
Fourth Grade	55	46.4	23.6	0.5
Fifth Grade	73	19.8	10.0	0.5

Lancaster City Schools - Event History

Date	School/District	Event Type
9/9/2014	LANCASTER CITY SCHOOL DISTRICT	Intro to ST Math Training Part 1
10/21/2014	WEST ELEMENTARY SCHOOL	Site Visit
10/21/2014	MEDILL ELEMENTARY SCHOOL	Site Visit
10/21/2014	THOMAS EWING JR HIGH SCHOOL	Site Visit
10/31/2014	LANCASTER CITY SCHOOL DISTRICT	Intro to ST Math Training Part 1
11/11/2014	SOUTH ELEMENTARY SCHOOL	Site Visit
11/11/2014	TARHE ELEMENTARY SCHOOL	Site Visit
11/11/2014	EAST ELEMENTARY SCHOOL	Consulting Coaching
11/11/2014	SANDERSON ELEMENTARY SCHOOL	Consulting Coaching
11/25/2014	CEDAR HEIGHTS ELEM SCHOOL	Data Meeting
12/2/2014	LANCASTER CITY SCHOOL DISTRICT	Intro to ST Math Training Part 2
12/9/2014	LANCASTER CITY SCHOOL DISTRICT	Site Visit
12/9/2014	THOMAS EWING JR HIGH SCHOOL	Intro to ST Math Training Part 2
12/9/2014	TALLMADGE ELEMENTARY SCHOOL	Site Visit
12/9/2014	CEDAR HEIGHTS ELEM SCHOOL	Site Visit
12/16/2014	LANCASTER CITY SCHOOL DISTRICT	Intro to ST Math Training Part 2
1/13/2015	WEST ELEMENTARY SCHOOL	Data Meeting
1/13/2015	GENERAL SHERMAN JR HIGH SCHOOL	Data Meeting
1/28/2015	WEST ELEMENTARY SCHOOL	Site Visit
2/10/2015	EAST ELEMENTARY SCHOOL	Data Meeting
2/10/2015	SANDERSON ELEMENTARY SCHOOL	Data Meeting
2/10/2015	SOUTH ELEMENTARY SCHOOL	Data Meeting
2/25/2015	WEST ELEMENTARY SCHOOL	Site Visit
3/27/2015	SANDERSON ELEMENTARY SCHOOL	Site Visit
4/28/2015	CEDAR HEIGHTS ELEM SCHOOL	Site Visit
4/28/2015	WEST ELEMENTARY SCHOOL	Site Visit
5/15/2015	LANCASTER CITY SCHOOL DISTRICT	Data Meeting, Planning Meeting

Summary

Liberty Union-Thurston School District completed the year with 479 active students on the program with an average syllabus progress of 53.7%. The teachers have participated in a variety of professional development opportunities this year. They attended two half-day initial training sessions; a common core webinar; and two other half-day training sessions designed specifically to address their concern with connecting ST Math to classroom instruction. This training addressed the Mathematical Practice Standards, game analysis, and designing a lesson around an ST Math puzzle. In addition to the professional development, the Education Consultant and other representatives from MIND Research Institute have conducted site visits, data meetings, and modeled lessons in classrooms.

Challenges

One challenge is that the school continues to experience technology issues. The technology teacher has done a great job providing teachers support and developing a system to ensure that the staff members have access to devices. Despite technology issues, the teachers and administration have done a great job of promoting ST Math and increasing student's syllabus progress.

Throughout the year, the teachers have been challenged with balancing the implementation of ST Math and their new curriculum program. They have been working incredibly hard and looking to maximize the impact ST Math will have on their students. Several teachers attended training sessions held in June Academy focused on integrating the Math Practice Standards; creating a blended learning environment; and lesson design.

Reflections and Next Steps

During the 2014-15 school year several things were accomplished. The elementary building has great excitement for ST Math and students are eager to share what they are learning. One of the classes participated in MIND Research Institute JiJi Believer competition and received a school wide pep rally from JiJi. Students and teachers are excited about the opportunity for students to work with ST Math this summer to continue to strengthen their skills.

As a result of the train the trainer session held in June, two teachers at Liberty Union will be providing training and support to their colleagues in the coming school year. The Education Consultant will work with these teachers and administration to provide additional support based on the needs of the school. The teachers at Liberty Union continue to strive to maximize their use of ST Math and integrate it into their curriculum. The Education Consultant will continue to work with the teachers to provide specialized training, understanding how to design lessons with ST Math. In partnership with the teachers and administration, the Education Consultant will support the school in creating a model of best practices.

ST Math Progress Data

District ST Math Progress by School

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Liberty Union-Thurston School District	**479**	**67.0**	**53.7**	**0.8**
Liberty Union Elementary School	479	67.0	53.7	0.8

School ST Math Progress by Grade

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Liberty Union-Thurston School District	**479**	**67.0**	**53.7**	**0.8**
Kindergarten	85	52.0	50.6	1.0
First Grade	93	67.4	47.6	0.7
Second Grade	111	69.7	45.6	0.7
Third Grade	94	78.4	65.1	0.8
Fourth Grade	96	65.7	60.6	0.9

Liberty Union-Thurston School District - Event History

Start Date	School/District	ES Event Type
9/16/2014	LIBERTY UNION ELEMENTARY SCH	Implementation Planning Meeting
9/23/2014	LIBERTY UNION ELEMENTARY SCH	Intro to ST Math Training Part 1
9/23/2014	LIBERTY UNION ELEMENTARY SCH	Intro to ST Math Training Part 1
10/16/2014	LIBERTY UNION ELEMENTARY SCH	Site Visit
10/21/2014	LIBERTY UNION ELEMENTARY SCH	Site Visit
10/30/2014	LIBERTY UNION ELEMENTARY SCH	Site Visit
11/13/2014	LIBERTY UNION ELEMENTARY SCH	Consulting Coaching, Site Visit
12/4/2014	LIBERTY UNION ELEMENTARY SCH	Intro to ST Math Training Part 2
12/18/2014	LIBERTY UNION ELEMENTARY SCH	Data Meeting
2/24/2015	LIBERTY UNION ELEMENTARY SCH	Site Visit
3/10/2015	LIBERTY UNION ELEMENTARY SCH	Site Visit
3/10/2015	LIBERTY UNION ELEMENTARY SCH	Site Visit
4/23/2015	LIBERTY UNION ELEMENTARY SCH	Webinar
4/27/2015	LIBERTY UNION ELEMENTARY SCH	Site Visit

Summary

Pickerington currently has 6,385 active students on the ST Math program with 41.5% average syllabus progress. The 2014-15 school year was the initial year of usage for ST Math for the district. Each school varied in their implementation. Some schools used ST Math as a whole class during set times during the day and week. Others used it in stations with students rotating through. Each teacher was allowed to use the program in the way that would best fit his or her class.

Working with the Director of Technology, the coaches, and the administrators, the Education Consultant conducted one district-wide training. Three teachers from each school were in attendance for this training. In addition to the district training, several school based trainings, data meetings and site visits were held throughout the year. The balance of in person training and job embedded training, which occurred through the site visits, provided an opportunity to support teachers in their professional understanding and use of the program.

Challenges

One challenge this year was that teachers had several programs (including new curriculum) that they managed during the 2014-15 school year. For some teachers it became challenging to determine which program to use at given times. Some of the schools created a good model for managing various programs, and utilizing the available technology. As teachers became more familiar with the program, they were able to share ideas and strategies with each other.

Training has been a challenge identified by the teachers and administrators. They would like more training on how to more effectively use ST Math. Some of the areas teachers have requested training on are fluency, supporting struggling students (as well as those who excel), using data, assigning homework, managing curriculum and designing lessons using ST Math puzzles. Principals have expressed the need to have more information on how they can effectively support ST Math; and information on monitoring and utilize the data. The Education Consultant will work with the district to provide opportunities for additional training through the district trainers, the Education Consultant, webinars, site visits, or self-guided courses. The type of training will be based on the needs and capacity of the district.

Reflections and Next Steps

During the 2014-15 school year several things were accomplished. Throughout the district, teachers and principals have spent this year getting acclimated to the program. There is great excitement for ST Math throughout the district. The district even added the ST Math program to their two Junior High Schools at the end of the school year.

Through training and embedded support, all teachers have acquired a basic understanding of the program and what it is designed to do. Students and teachers are excited about the opportunity to work with ST Math this summer to continue to strengthen their skills. The teachers enjoy the program and often share noticeable benefits they see in their students. They are eager to learn more. Several of the teachers attended the optional June Academy trainings to get more information on how to more effectively use the program.

Moving forward the plan is to think about frameworks and strategies that teachers can use to maximize their use of ST Math. That work began this summer at the June Academy where some Pickerington Local Schools teachers were in attendance. As part of the academy they began discussing how to take their use of ST Math to the next level in areas like integration with the new standards, creating a blended learning model and in designing lessons around ST Math puzzles. The Education Consultant will continue to work with the teachers and the district in developing in these areas.

ST Math Progress Data

District ST Math Progress by School

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Pickerington Local School District	**6385**	**55.3**	**41.5**	**0.8**
Diley Middle School	595	93.7	58.1	0.6
Fairfield Elementary School	466	63.0	51.5	0.8
Harmon Middle School	517	84.1	50.4	0.6
Heritage Elementary School	348	91.6	66.5	0.7
Lakeview Junior High	767	4.3	1.5	0.4
Pickerington Elementary School	450	64.0	62.1	1.0
Ridgeview Junior High School	643	4.7	1.0	0.2
Sycamore Creek Elementary	648	59.9	54.7	0.9
Toll Gate Elementary	594	58.9	50.5	0.9
Toll Gate Middle School	411	37.9	28.5	0.8
Tussing Elementary School	501	91.6	65.8	0.7
Violet Elementary School	445	49.4	39.4	0.8

School ST Math Progress by Grade

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Diley Middle School	**595**	**93.7**	**58.1**	**0.6**
Fifth Grade	286	94.7	54.9	0.6
Sixth Grade	309	92.9	61.1	0.7
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Fairfield Elementary School	**466**	**63.0**	**51.5**	**0.8**
Kindergarten	72	47.6	61.1	1.3
First Grade	107	75.1	55.4	0.7
Second Grade	106	53.0	40.5	0.8
Third Grade	88	87.8	68.6	0.8
Fourth Grade	93	48.9	36.1	0.7
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Harmon Middle School	**517**	**84.1**	**50.4**	**0.6**
Fifth Grade	237	89.5	65.4	0.7
Sixth Grade	278	79.4	37.5	0.5
Seventh Grade MSS	2	91.0	59.1	0.6

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Heritage Elementary School	**348**	**91.6**	**66.5**	**0.7**
Kindergarten	56	75.8	64.5	0.9
First Grade	72	73.5	67.0	0.9
Second Grade	67	128.1	77.7	0.6
Third Grade	87	93.3	60.7	0.7
Fourth Grade	66	85.5	64.1	0.7
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Lakeview Junior High	**767**	**4.3**	**1.5**	**0.4**
Seventh Grade MSS	398	5.5	1.9	0.3
Eighth Grade MSS	369	3.2	1.2	0.4
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Pickerington Elementary School	**450**	**64.0**	**62.1**	**1.0**
Kindergarten	78	49.8	72.3	1.5
First Grade	103	60.9	73.9	1.2
Second Grade	86	79.9	50.2	0.6
Third Grade	82	76.4	63.8	0.8
Fourth Grade	101	54.4	51.1	0.9
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Ridgeview Junior High School	**643**	**4.7**	**1.0**	**0.2**
Seventh Grade MSS	345	5.5	1.2	0.2
Eighth Grade MSS	298	3.8	0.8	0.2
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Sycamore Creek Elementary	**648**	**59.9**	**54.7**	**0.9**
Kindergarten	127	40.8	46.2	1.1
First Grade	128	67.1	74.9	1.1
Second Grade	116	96.8	70.7	0.7
Third Grade	149	44.8	41.7	0.9
Fourth Grade	128	55.6	43.7	0.8
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Toll Gate Elementary	**594**	**58.9**	**50.5**	**0.9**
Kindergarten	97	20.7	31.6	1.5
First Grade	129	48.1	56.5	1.2
Second Grade	130	58.9	42.1	0.7
Third Grade	127	90.8	62.6	0.7
Fourth Grade	111	68.2	56.4	0.8
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Toll Gate Middle School	**411**	**37.9**	**28.5**	**0.8**
Second Grade	10	28.2	13.6	0.5
Fifth Grade	206	37.1	33.1	0.9
Sixth Grade	195	39.2	24.5	0.6

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Tussing Elementary School	**501**	**91.6**	**65.8**	**0.7**
Kindergarten	81	56.6	58.6	1.0
First Grade	116	67.8	72.7	1.1
Second Grade	116	111.9	59.0	0.5
Third Grade	94	129.8	70.9	0.5
Fourth Grade	94	88.0	66.7	0.8
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Violet Elementary School	**445**	**49.4**	**39.4**	**0.8**
Kindergarten	85	35.5	42.0	1.2
First Grade	72	54.4	52.6	1.0
Second Grade	106	35.4	26.4	0.7
Third Grade	94	44.4	39.4	0.9
Fourth Grade	88	81.0	41.6	0.5

Pickerington Local School District - Event History

Date	School/District	Event Type
9/30/2014	PICKERINGTON LOCAL SCHOOL DIST	Intro to ST Math Training Part 1
10/16/2014	TOLL GATE ELEMENTARY SCHOOL	Intro to ST Math Training Part 1
10/21/2014	PICKERINGTON ELEMENTARY SCHOOL	Site Visit
10/21/2014	DILEY MIDDLE SCHOOL	Site Visit
10/29/2014	VIOLET ELEMENTARY SCHOOL	Intro to ST Math Training Part 1
10/30/2014	DILEY MIDDLE SCHOOL	Site Visit
11/5/2014	DILEY MIDDLE SCHOOL	Site Visit
11/5/2014	PICKERINGTON ELEMENTARY SCHOOL	Site Visit
11/12/2014	HARMON MIDDLE SCHOOL	Data Meeting, Site Visit
11/12/2014	HERITAGE ELEMENTARY SCHOOL	Consulting Coaching, Site Visit
11/12/2014	VIOLET ELEMENTARY SCHOOL	Consulting Coaching, Site Visit
11/20/2014	DILEY MIDDLE SCHOOL	Site Visit
11/20/2014	DILEY MIDDLE SCHOOL	Data Meeting
11/21/2014	TOLL GATE MIDDLE SCHOOL	Data Meeting
12/3/2014	DILEY MIDDLE SCHOOL	Site Visit
12/9/2014	DILEY MIDDLE SCHOOL	Site Visit
12/16/2014	DILEY MIDDLE SCHOOL	Site Visit
12/19/2014	PICKERINGTON LOCAL SCHOOL DIST	Site Visit
1/8/2015	TUSSING ELEMENTARY SCHOOL	Data Meeting
1/8/2015	VIOLET ELEMENTARY SCHOOL	Data Meeting
1/8/2015	HERITAGE ELEMENTARY SCHOOL	Data Meeting
1/9/2015	FAIRFIELD ELEMENTARY SCHOOL	Data Meeting
1/12/2015	SYCAMORE CREEK ELEM SCHOOL	Data Meeting
1/14/2015	HARMON MIDDLE SCHOOL	Data Meeting
1/16/2015	DILEY MIDDLE SCHOOL	Site Visit
1/16/2015	TOLL GATE MIDDLE SCHOOL	Site Visit
1/16/2015	VIOLET ELEMENTARY SCHOOL	Site Visit
1/16/2015	TUSSING ELEMENTARY SCHOOL	Intro to ST Math Training Part 2
1/28/2015	HARMON MIDDLE SCHOOL	Site Visit
2/6/2015	HARMON MIDDLE SCHOOL	Site Visit
3/3/2015	TOLL GATE ELEMENTARY SCHOOL	Data Meeting, Site Visit
3/19/2015	HARMON MIDDLE SCHOOL	Site Visit
3/24/2015	PICKERINGTON ELEMENTARY SCHOOL	Site Visit
3/24/2015	PICKERINGTON ELEMENTARY SCHOOL	Data Meeting
4/28/2015	DILEY MIDDLE SCHOOL	Site Visit
4/28/2015	TOLL GATE MIDDLE SCHOOL	Site Visit
5/14/2015	PICKERINGTON-RIDGEVIEW JR HS	Intro to ST Math Training Part 1
5/14/2015	PICKERINGTON LAKEVIEW JR HS	Intro to ST Math Training Part 1
5/14/2015	DILEY MIDDLE SCHOOL	Site Visit
5/15/2015	VIOLET ELEMENTARY SCHOOL	Site Visit
5/19/2015	PICKERINGTON LOCAL SCHOOL DIST	Data Meeting, Planning Meeting

Summary

Walnut Township - Millersport Elementary completed the year with 304 active students on the program with 47.6% average syllabus progress. The Principal and staff at Millersport were very focused on program implementation and created a great culture at the school celebrating and promoting mathematics. The teachers' initial training on the program came from the independent use of MIND's self-guided courses (1-4). Those courses were followed up with a site visit from MIND's Education Consultant. The purpose of the site visit was to work in the lab with teachers and students. A follow-up training was provided to review reports, and how to help struggling students.

Challenges

As we enter into the 2015-16 school year, the school will be under new leadership. Additionally, the technology teacher's position was eliminated due to budget cuts. The technology teacher and the principal were instrumental in developing a schedule and monitoring the use of ST Math. The changes in administration, the loss of the technology teacher and other staff turnover will necessitates a need for additional training and support. The Education Consultant is committed to supporting the students, teachers and administrators in their math goals as they go through this transition. The Education Consultant will be contacting the new principal as soon as he or she is named in order to schedule a meeting to plan support for ensuring a strong start and ongoing support for the 2015-16 school year.

Reflection and Next Steps

During the 2014-15 school year several things were accomplished. The teachers implemented the program in their classrooms K-5. They created celebrations and excitement for the use of ST Math throughout the school. Teachers developed a basic understanding of the program, how to read the onscreen monitoring tools, how to read the reports and how to effectively facilitate students who are struggling with the ST Math content. There is still more work to be done, but the teachers and administrator did a great job with the implementation.

As we approach the 2015-16 school year, the goal of the Education Consultant will be to support the teachers and administration through the changes in personnel by providing additional site visits, trainings, coaching and data meetings. To help the school achieve a strong start, the Education Consultant will offer onsite support to help students and teachers get started with ST Math for the new school year.

ST Math Progress Data

District ST Math Progress by School

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Walnut Township Local School District	**304**	**63.5**	**47.6**	**0.7**
Millersport Elementary School	304	63.5	47.6	0.7

School ST Math Progress by Grade

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Millersport Elementary School	**304**	**63.5**	**47.6**	**0.7**
Kindergarten	41	39.8	51.3	1.3
First Grade	37	47.5	70.8	1.5
Second Grade	52	45.5	43.5	1.0
Third Grade	37	60.5	35.2	0.6
Fourth Grade	44	71.8	42.7	0.6
Fifth Grade	46	80.8	45.5	0.6
Sixth Grade	47	94.6	47.0	0.5

Walnut Township School District - Event History

Date	School/District	Event Type
10/21/2014	MILLERSPORT ELEMENTARY SCHOOL	Site Visit
10/27/2014	MILLERSPORT ELEMENTARY SCHOOL	Site Visit
12/3/2014	MILLERSPORT ELEMENTARY SCHOOL	Site Visit
12/18/2014	MILLERSPORT ELEMENTARY SCHOOL	Data Meeting
4/27/2015	MILLERSPORT ELEMENTARY SCHOOL	Site Visit

Columbus City Schools

Summary

Columbus completed the year with 1717 active students on the program with 6.3% average syllabus progress. The district focus was on ESL students and the ESL Department Supervisor served as the ST Math Lead for the project. Originally, the district had identified 41 schools within the grant to use ST Math for the 2014-15 school year. During the course of the year, the district ESL Department made the decision to delay the start of twelve of the schools until the 2015-16 school year. This decision was made because there was not an identified person at each of those schools to facilitate the ST Math implementation with ESL students.

During the 2014-15 school year, there were four District-wide trainings for ESL instructional assistants and teachers. The trainings focused on getting the students on the program, reading reports, facilitating student thinking, helping struggling students, and managing curriculum. In addition, at the request of the district, strategies to support language integration and literacy were also integrated into the training.

In addition to the district-wide trainings, multiple trainings were conducted at individual buildings as requested. These trainings were part of 45 minute staff meetings and were a way to help the rest of the staff understand the purpose and impact that ST Math can have on student mastery of mathematics.

On 2/23/15 a meeting was held with the Curriculum Director and her team to provide an overview of the ST Math program. A follow-up meeting has been re-scheduled by the district several times. The purpose of this meeting will be to discuss the unused licenses and to share how ST Math can help support the district in achieving their math goals.

During the 2014-15, the Education Consultant worked with another representative from MIND Research Institute to develop a framework for a 5-week grades K-5 summer school program for two schools in the district. The program focused on fractions in grades 3-5 and Number in grades K-2. The framework was a blended learning approach focused on ST Math puzzles as a whole class instructional tool, followed by a station rotation model (4 stations: ST Math; Intervention; Number Sense Games; and Design Challenge).

Challenges

Overall usage has been low in the district due to a variety of reasons; time constraints, not enough access to ESL students for the teaching assistants, and waiting for additional technology. Although usage overall is low, it does very by class. With snow days, testing, and limited technology in the ESL classroom, maintaining consistent usage for students has been a challenge. Some of the classes were not able to access the program regularly so the students often forgot their passwords. In addition to these obstacles, the use of the “push-in” model in some schools has limited the availability of the ESL students to use the program within the ESL classroom. The Chrome Books that were provided through the grant have now been deployed to the schools and the district ESL department is expecting to see

an increase in usage due to the availability of this technology. Even with the challenges, there are some students who have finished the program.

Another challenge has been communication. The Education Consultant and other representatives from MIND Research Institute are working to ensure that the teachers and principals are fully aware of the ST Math program in their building; its resources; training and support. Each of the building in the grant has a building site license and therefore can utilize the program building-wide. MIND Research Institute has offered to hold a training specific to principals to help them see how they can maximize their usage of the program.

Reflections and Next Steps

During the 2014-15 school year the following things were accomplished: Technology was delivered to the ESL classrooms to use ST Math; over 2000 students became active users of ST Math; a summer program was created to support students in mathematics; and teachers and students who were using ST Math became excited about math. Despite the challenges, several ESL teachers and assistants have shared how beneficial the program has been for their students. It gives them access to mathematics and helps the teacher gain a better understanding of the student's mathematical knowledge.

As we move into the 2015-16 school year, the district ESL Department leadership has changed. A new Director will be overseeing the program. The Education Consultant has met briefly with the new Director and will be scheduling another meeting in early August. The purpose of this meeting will be to review the implementation plan and determine any additional support needed.

In May, the Education Consultant worked with members of the district's ESL department (including the new Director) to create a new approach for implementing ST Math in the schools to provide a better opportunity for usage. In the ESL classrooms, the assistants will continue to be the main facilitator for the program. The ESL department has identified 4 "JiJi Experts. These experts will be part of a panel that will receive additional training. The Education Consultant will meet with these experts each month to discuss the district's implementation and what additional support is needed for the schools. In addition, the ESL department has created a data team. The purpose of this team is to monitor and review the district data. This team will receive weekly reports to support them in monitoring the implementation.

In addition, site visits will be set up for each school to further support them in achieving their goals. Currently, the Education Consultant has 3 requests from schools that had unused licenses during the 2014-15 school year. These schools reported that they were not fully aware of their abilities to use the program and would like to utilize ST Math during the 2015-16 school year.

ST Math Progress Data

District ST Math Progress by School

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Columbus City School District	**1717**	**14.3**	**6.3**	**0.4**
Broadleigh Elementary School	64	33.2	15.8	0.5
Burroughs Elementary	44	12.9	4.5	0.3
Cassady Alternative Elementary School	184	25.1	11.3	0.5
Columbus Global Academy	88	15.1	2.9	0.2
Eakin Elementary School	35	5.1	1.8	0.4
East Linden Elementary School	59	15.0	7.4	0.5
Forest Park Elementary School	39	2.8	1.3	0.5
Gables Elementary School	29	6.4	6.5	1.0
Hubbard Mastery School	37	4.4	2.6	0.6
Innis Elementary School	180	20.1	14.2	0.7
Johnson Park Middle School	55	13.4	1.9	0.1
Medina Middle School	254	6.4	1.4	0.2
Mifflin Alternative Middle School	139	16.6	3.0	0.2
Mifflin High School	95	6.2	0.9	0.2
North Linden Elementary School	53	22.2	8.7	0.4
Northland High School	36	12.1	4.2	0.4
Northtowne Elementary School	61	2.4	0.4	0.2
Salem Elementary School	86	16.2	11.1	0.7
Siebert Elementary School	45	10.9	6.0	0.5
Valley Forge Elementary School	110	15.8	10.3	0.7
Wedgewood Middle School	23	3.1	0.0	0.0
Woodcrest Elementary School	1	2.0	0.0	0.0

School ST Math Progress by Grade

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Broadleigh Elementary School	**64**	**33.2**	**15.8**	**0.5**
Second Grade	4	32.3	13.2	0.4
Third Grade	23	30.3	16.3	0.5
Fourth Grade	13	36.6	11.4	0.3
Fifth Grade	24	34.3	18.1	0.5
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Burroughs Elementary	**44**	**12.9**	**4.5**	**0.3**
First Grade	8	7.8	3.9	0.5
Second Grade	11	12.2	4.1	0.3
Third Grade	9	13.8	4.6	0.3
Fourth Grade	8	19.3	4.9	0.3
Fifth Grade	8	11.5	5.0	0.4

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Cassady Alternative Elementary School	**184**	**25.1**	**11.3**	**0.5**
First Grade	26	9.4	4.8	0.5
Second Grade	34	26.9	9.0	0.3
Third Grade	58	13.4	4.7	0.4
Fourth Grade	33	22.4	11.1	0.5
Fifth Grade	33	58.8	30.6	0.5
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Columbus Global Academy	**88**	**15.1**	**2.9**	**0.2**
Eighth Grade MSS	57	17.6	3.1	0.2
High School Intervention	31	10.6	2.4	0.2
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Eakin Elementary School	**35**	**5.1**	**1.8**	**0.4**
First Grade	1	1.0	0.0	0.0
Second Grade	7	12.9	4.0	0.3
Third Grade	7	1.4	0.9	0.6
Fourth Grade	6	6.3	2.1	0.3
Fifth Grade	14	2.9	1.2	0.4
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
East Linden Elementary School	**59**	**15.0**	**7.4**	**0.5**
Kindergarten	2	2.5	1.1	0.4
Third Grade	16	16.4	7.8	0.5
Fourth Grade	27	14.9	4.6	0.3
Fifth Grade	14	15.4	12.9	0.8
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Forest Park Elementary School	**39**	**2.8**	**1.3**	**0.5**
Third Grade	14	1.9	0.8	0.4
Fourth Grade	9	1.9	0.0	0.0
Fifth Grade	16	4.1	2.5	0.6
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Gables Elementary School	**29**	**6.4**	**6.5**	**1.0**
First Grade	9	2.1	1.5	0.7
Third Grade	20	8.4	8.7	1.0
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Hubbard Mastery School	**37**	**4.4**	**2.6**	**0.6**
Kindergarten	7	1.7	0.8	0.5
First Grade	6	3.0	3.3	1.1
Second Grade	7	4.3	2.0	0.5
Third Grade	5	12.4	7.0	0.6
Fourth Grade	6	4.7	2.2	0.5
Fifth Grade	6	2.3	1.6	0.7

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Innis Elementary School	**180**	**20.1**	**14.2**	**0.7**
Kindergarten	14	10.5	19.3	1.8
First Grade	44	8.9	7.7	0.9
Second Grade	31	6.3	3.9	0.6
Third Grade	34	32.1	21.1	0.7
Fourth Grade	31	33.9	19.4	0.6
Fifth Grade	26	28.5	19.9	0.7
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Johnson Park Middle School	**55**	**13.4**	**1.9**	**0.1**
Sixth Grade MSS	24	13.0	2.3	0.2
Seventh Grade MSS	19	20.1	2.4	0.1
Eighth Grade MSS	12	3.6	0.2	0.1
Medina Middle School	254	6.4	1.4	0.2
Sixth Grade MSS	133	7.6	1.8	0.2
Seventh Grade MSS	113	5.1	1.0	0.2
Eighth Grade MSS	8	3.9	0.0	0.0
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Mifflin Alternative Middle School	**139**	**16.6**	**3.0**	**0.2**
Sixth Grade MSS	58	18.4	3.4	0.2
Seventh Grade MSS	56	16.2	2.8	0.2
Eighth Grade MSS	25	13.1	2.2	0.2
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Mifflin High School	**95**	**6.2**	**0.9**	**0.2**
High School Intervention	95	6.2	0.9	0.2
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
North Linden Elementary School	**53**	**22.2**	**8.7**	**0.4**
Kindergarten	10	2.6	0.7	0.3
First Grade	7	1.9	0.6	0.3
Third Grade	1	7.0	2.0	0.3
Fourth Grade	19	21.8	6.1	0.3
Fifth Grade	16	44.6	20.7	0.5
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Northland High School	**36**	**12.1**	**4.2**	**0.4**
High School Intervention	36	12.1	4.2	0.4
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Northtowne Elementary School	**61**	**2.4**	**0.4**	**0.2**
Kindergarten	3	1.3	0.4	0.3
First Grade	1	1.0	0.0	0.0
Second Grade	16	1.8	0.4	0.2
Fourth Grade	23	2.6	0.4	0.2
Fifth Grade	18	2.9	0.4	0.1

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Salem Elementary School	**86**	**16.2**	**11.1**	**0.7**
Kindergarten	4	19.5	13.9	0.7
First Grade	19	5.2	1.8	0.3
Second Grade	15	4.6	1.8	0.4
Third Grade	18	29.1	25.1	0.9
Fourth Grade	13	18.5	8.0	0.4
Fifth Grade	17	22.6	16.6	0.7
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Siebert Elementary School	**45**	**10.9**	**6.0**	**0.5**
Kindergarten	4	1.0	0.0	0.0
Second Grade	18	10.4	5.2	0.5
Third Grade	11	15.5	10.8	0.7
Fourth Grade	7	12.4	5.8	0.5
Fifth Grade	5	8.4	3.4	0.4
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Valley Forge Elementary School	**110**	**15.8**	**10.3**	**0.7**
Kindergarten	21	2.9	2.5	0.9
First Grade	38	8.0	9.2	1.2
Second Grade	48	28.2	14.9	0.5
Third Grade	3	8.3	6.5	0.8
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Wedgewood Middle School	**23**	**3.1**	**0.0**	**0.0**
Sixth Grade MSS	19	3.0	0.0	0.0
Seventh Grade MSS	2	4.5	0.1	0.0
Eighth Grade MSS	2	3.0	0.1	0.0
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Woodcrest Elementary School	**1**	**2.0**	**0.0**	**0.0**
Fifth Grade	1	2.0	0.0	0.0

Columbus City Schools - Event History

Date	School/District	Event Type
9/18/2014	COLUMBUS CITY SCH DISTRICT	Intro to ST Math Training Part 1
10/1/2014	SALEM ELEMENTARY SCHOOL	Site Visit
10/1/2014	INNIS ELEMENTARY SCHOOL	Site Visit
10/7/2014	COLUMBUS CITY SCH DISTRICT	Site Visit
10/7/2014	MIFFLIN ALTERNATIVE MIDDLE SCH	Site Visit
10/9/2014	COLUMBUS CITY SCH DISTRICT	Intro to ST Math Training Part 1
10/13/2014	JOHNSON PARK MIDDLE SCHOOL	Site Visit
11/10/2014	CASSADY ALT ELEMENTARY SCHOOL	Site Visit

Date	School/District	Event Type
11/12/2014	EAKIN ELEMENTARY SCHOOL	Site Visit
11/13/2014	COLUMBUS CITY SCH DISTRICT	Intro to ST Math Training Part 1
11/13/2014	SIEBERT ELEMENTARY SCHOOL	Site Visit
11/13/2014	COLUMBUS GLOBAL ACADEMY	Site Visit
11/17/2014	NORTHTOWNE ELEMENTARY SCHOOL	Site Visit
11/20/2014	JOHNSON PARK MIDDLE SCHOOL	Site Visit
11/24/2014	WEDGEWOOD MIDDLE SCHOOL	Site Visit
12/1/2014	INNIS ELEMENTARY SCHOOL	Site Visit
12/4/2014	WEDGEWOOD MIDDLE SCHOOL	Site Visit
12/5/2014	NORTHTOWNE ELEMENTARY SCHOOL	Site Visit
12/8/2014	SIEBERT ELEMENTARY SCHOOL	Site Visit
12/8/2014	MEDINA MIDDLE SCHOOL	Site Visit
12/9/2014	COLUMBUS CITY SCH DISTRICT	Implementation Planning Meeting
12/15/2014	JOHNSON PARK MIDDLE SCHOOL	Site Visit
2/4/2015	COLUMBUS CITY SCH DISTRICT	Intro to ST Math Training Part 2
2/23/2015	COLUMBUS CITY SCH DISTRICT	Data Meeting
3/25/2015	COLUMBUS CITY SCH DISTRICT	Intro to ST Math Training Part 1
3/31/2015	COLUMBUS CITY SCH DISTRICT	Implementation Planning Meeting
3/31/2015	HUBBARD MASTERY SCHOOL	Site Visit
3/31/2015	GABLES ELEMENTARY SCHOOL	Site Visit
4/16/2015	COLUMBUS CITY SCH DISTRICT	Data Meeting, Planning Meeting
4/23/2015	COLUMBUS CITY SCH DISTRICT	Site Visit
4/27/2015	GABLES ELEMENTARY SCHOOL	Site Visit
5/12/2015	COLUMBUS CITY SCH DISTRICT	Implementation Planning Meeting
5/20/2015	COLUMBUS CITY SCH DISTRICT	Data Meeting
6/1/2015	COLUMBUS CITY SCH DISTRICT	Site Visit
6/12/2015	COLUMBUS CITY SCH DISTRICT	Intro to ST Math Training Part 1
6/12/2015	COLUMBUS CITY SCH DISTRICT	Intro to ST Math Training Part 1
6/15/2015	GABLES ELEMENTARY SCHOOL	Site Visit
6/15/2015	OAKMONT ELEMENTARY SCHOOL	Site Visit
6/16/2015	GABLES ELEMENTARY SCHOOL	Site Visit
6/17/2015	GABLES ELEMENTARY SCHOOL	Site Visit
6/18/2015	OAKMONT ELEMENTARY SCHOOL	Site Visit
6/22/2015	OAKMONT ELEMENTARY SCHOOL	Site Visit
6/29/2015	GABLES ELEMENTARY SCHOOL	Site Visit
6/30/2015	OAKMONT ELEMENTARY SCHOOL	Site Visit
7/2/2015	OAKMONT ELEMENTARY SCHOOL	Site Visit
7/7/2015	GABLES ELEMENTARY SCHOOL	Site Visit
7/8/2015	GABLES ELEMENTARY SCHOOL	Site Visit
7/9/2015	OAKMONT ELEMENTARY SCHOOL	Site Visit

Summary

Gahanna completed the year with 404 active students on the program with 41.3% average syllabus progress. Gahanna Middle School West is the only school in the district using the program. The school implemented the program in grades 6 and 7 with great success. They have developed an instructional rotation model where teachers have stations set up in their classrooms (small group instruction with the teacher, ST Math station and a third station). These stations take place over a double blocked period of instruction. They also took advantage of inclusion where possible and the inclusion teacher supports one of the stations.

The Education Consultant is working with the principal and the assistant principal of the school to discuss how to improve ST Math usage in their building and better utilize the station rotation model. During the 2015-16 school year, the district will implement a new math curriculum. The school administration team would like to integrate ST Math into the new curriculum. They want to continue the success they had this school year with implementation and build upon it for next year.

Challenges

The teachers have been doing a great job with the implementation. Because the teachers use a station rotation model, the challenge is in helping stuck students. Often teachers have a small group they are providing instruction to, while another group is working on ST Math. The Education Consultant will work with the teachers in continuing to develop strategies and methods of support for students who get stuck working on various puzzles.

Reflections and Next Steps

During the 2014-15 school year several things were accomplished. Throughout the school, teachers and principals have spent this year getting acclimated to the program. Through training and embedded support, teachers have a basic understanding of the program and what it is designed to do. The school has developed a great JiJi culture and a solid instructional model for implementation. The teachers and students showed great excitement for ST Math throughout the school year.

As we move toward the 2015-16 school year, the Education Consultant will work with the teachers and administrators to refine the station rotation model they are using. Site visits will be scheduled to provide in class support for the teachers in maximizing their usage of ST Math and better utilizing their data. The Education Consultant will also work with the teachers in developing lessons using ST Math puzzles to support their classroom instruction.

ST Math Progress Data

District ST Math Progress by School

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Gahanna-Jefferson City Schools	**404**	**121.8**	**41.3**	**0.3**
Gahanna Middle School - West	404	121.8	41.3	0.3

School ST Math Progress by Grade

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Gahanna Middle School - West	**404**	**121.8**	**41.3**	**0.3**
Sixth Grade MSS	202	132.6	52.0	0.4
Seventh Grade MSS	155	127.1	33.4	0.3
Eighth Grade MSS	47	57.6	21.4	0.4

Gahanna Jefferson City Schools - Event History

Date	School/District	Event Type
8/27/2014	GAHANNA MIDDLE SCHOOL-WEST	Intro to ST Math Training Part 1
11/18/2014	GAHANNA MIDDLE SCHOOL-WEST	Data Meeting
12/10/2014	GAHANNA MIDDLE SCHOOL-WEST	Site Visit

Summary

Hamilton Local Schools completed the year with 1448 active students on the program with 18.4% average syllabus progress. Hamilton Local School district has a total of three schools. The district chose to have all the teachers initially trained using MIND's self-guided courses (1-4). The elementary school is the one primarily using the program. Technology issues, time constraints and an insufficient number of devices have been reported as reasons why the remaining two Hamilton schools are unable to fully implement the ST Math program. The middle school had some usage during the 2014-15 school year, but the intermediate school determined that they would not start using ST Math until the 2015-16 school year.

There has been some turnover within the district. The elementary has a new principal and the curriculum coordinator, who is the ST Math lead for the district has been out on extended leave. The Education Consultant is reaching out to the lead teacher and new principal to discuss ST Math usage for the upcoming school year. The Education Consultant is in the process of setting up a meeting to finalize a plan of support.

Challenges

The pervasive challenge during the 2014-15 school year was regarding the number of devices available. The district has a large population of students in all grades, but lacks the adequate number of devices needed for a strong implementation at all grade levels. In the elementary 3rd grade has the strongest implementation because they have a cart of Chrome Books that are used for ST Math. Other classes rely on using classroom computers and scheduling time in the computer lab.

The kindergarten and first grade classes have had more difficulty using ST Math because their classroom computers are not compatible with the program. Because these teachers do not have the ability to get their students on the system on a regular basis, the focus for those grade levels is on using ST Math in the lab when possible, engaging students in the homework feature of ST Math and bringing ST Math puzzles into the classroom as part of the lesson. A representative from MIND visited the school and modeled a lesson using an ST Math puzzle in several teachers classroom.

Reflection and Next Steps

During the 2014-15 school year the following was accomplished at the elementary school. Teachers and principals had the year to get acclimated to the program. The ST Math lead teacher received site visits and additional training so that she may be able to support the other teachers in the building. In addition, students particularly in grades 2 and 3 have been utilizing the program. There is excitement among the students as they continue to use the program. Students and teachers are excited about the opportunity for students to work with ST Math this summer to continue to strengthen their skills.

As we move toward the 2015-16 school year, the Education Consultant will continue to provide resources and information to the district. The staff would like to learn how to better integrate ST Math into classroom instruction as a part of whole group and small group instruction. In addition, a webinar is being scheduled to provide information and understanding on fluency and one on how to better utilize the reports. The Education Consultant is currently working on setting up a meeting to support the new administrator in reading and monitoring the data.

ST Math Progress Data

District ST Math Progress by School

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Hamilton Local School District	**1448**	**19.6**	**18.4**	**0.9**
Hamilton Elementary School	994	26.0	26.4	1.0
Hamilton Middle School	454	5.7	1.0	0.2

School ST Math Progress by Grade

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Hamilton Elementary School	**994**	**26.0**	**26.4**	**1.0**
Kindergarten	251	12.8	22.3	1.7
First Grade	270	25.5	31.7	1.2
Second Grade	269	22.3	16.0	0.7
Third Grade	204	47.6	38.0	0.8
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Hamilton Middle School	**454**	**5.7**	**1.0**	**0.2**
Seventh Grade MSS	238	5.0	0.4	0.1
Eighth Grade MSS	216	6.4	1.6	0.3

Hamilton Local Schools - Event History

Date	School/District	Event Type
10/14/2014	HAMILTON ELEMENTARY SCHOOL	Site Visit
11/24/2014	HAMILTON ELEMENTARY SCHOOL	Site Visit
12/5/2014	HAMILTON MIDDLE SCHOOL	Data Meeting
12/5/2014	HAMILTON ELEMENTARY SCHOOL	Site Visit
3/13/2015	HAMILTON ELEMENTARY SCHOOL	Data Meeting
4/1/2015	HAMILTON ELEMENTARY SCHOOL	Site Visit

Summary

Hilliard completed the year with 6,619 active students on the program with 33.7% average syllabus progress. The implementation varied by school. The district initially identified a focus group of students for the program. This focus group included Special Education students, English Language Learners and Gifted and Talented students. As teachers and students began to learn more about the program, it expanded at some schools to include regular education students. The expansion was at the discretion of the individual teachers who wanted to use it in their classrooms.

The Education Consultant and other MIND Research Institute representatives have conducted site visits, staff meetings, classroom modeling and data meetings throughout the district. In addition, seven different district wide trainings have been conducted as well as several building specific trainings. The Education Consultant has worked closely with the ST Math Lead to monitor the implementation. Several teachers participated in a district led focus group with the ST Math lead. The majority of the teachers are excited about the awareness they have built regarding ST Math. However, they also realize that there is a lot more they can do with the program. The teachers are interested in learning strategies to implement ST Math into their curriculum

Challenges

One of the challenges is that the use of ST Math in the regular education classroom is optional in the district. Not all staff members were selected by the district to attend the training. As a result, many teachers felt like they did not have adequate information to fully implement the program. The teachers have asked for more professional development especially around the data reports. They love the training and understand that there is much more they can learn. They would also like to get training on how to integrate ST Math into their curriculum and how to best utilize the fluency curriculum. The Education Consultant will be working with the district ST Math lead to discuss ways for improved communications and opportunities for teachers to share ideas and strategies for ST Math with each other.

Additionally time continues to be a factor in the regular use of the program. A large number of the schools have expressed the need for additional devices to be able to use the program more effectively. Many of the schools have iPad carts that they share amongst grade levels. The Education Consultant has encouraged the schools to develop a schedule for usage in order to maximize the time students have on the program.

Next Steps and Reflections

During the 2014-15 school year several things were accomplished. Throughout the district, teachers and principals have spent this year getting acclimated to the program. There is great excitement for ST Math throughout the district. While there is a need for additional training, many of the teachers have a basic understanding of the program and what it is designed to do. Students and teachers are excited about the opportunity for students to work with ST Math this summer to continue to strengthen their skills. The teachers enjoy the program and often share noticeable benefits they see in their students.

As we move into the 2015-16 school year, the Education Consultant will continue to work with the district ST Math lead to provide support for the teachers and administrators. The ST Math lead is looking into the possibility for the Education Consultant to meet with the math coaches on a regular basis. In addition, a Google Doc will be set up by the Education Consultant in which principals can sign up for site visits for additional support for their schools. Finally, the Education Consultant will be conducting four webinars for the district during the 2015-16 school year. These webinars will range in topics and will be based on the needs identified in the district.

ST Math Progress Data

District ST Math Progress by School

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Hilliard City School District	**6619**	**45.5**	**33.7**	**0.7**
Alton Darby Elementary School	360	29.1	25.1	0.9
Avery Elementary School	377	50.8	37.6	0.7
Beacon Elementary School	494	50.7	36.9	0.7
Britton Elementary School	496	40.4	26.8	0.7
Brown Elementary School	571	50.9	30.5	0.6
Darby Creek Elementary School	492	62.3	45.1	0.7
Hilliard Crossing Elementary School	510	29.8	24.4	0.8
Hilliard Horizon Elementary School	635	38.9	26.4	0.7
Hoffman Trails Elementary School	498	33.6	33.3	1.0
J W Reason Elementary School	499	55.7	37.8	0.7
Norwich Elementary School	252	23.0	21.5	0.9
Ridgewood Elementary School	524	43.6	29.9	0.7
Scioto Darby Elementary School	478	44.0	36.1	0.8
Washington Elementary School	433	75.9	60.1	0.8

School ST Math Progress by Grade

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Alton Darby Elementary School	**360**	**29.1**	**25.1**	**0.9**
Kindergarten	14	8.4	9.7	1.2
First Grade	79	52.3	49.5	0.9
Second Grade	74	35.3	19.7	0.6
Third Grade	36	18.8	15.6	0.8
Fourth Grade	81	15.1	13.2	0.9
Fifth Grade	76	22.3	24.9	1.1
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Avery Elementary School	**377**	**50.8**	**37.6**	**0.7**
Kindergarten	60	64.0	48.6	0.8
First Grade	59	61.8	51.0	0.8
Second Grade	62	51.1	39.8	0.8
Third Grade	67	65.8	51.4	0.8
Fourth Grade	58	45.8	28.5	0.6
Fifth Grade	71	20.0	9.9	0.5

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Beacon Elementary School	**494**	**50.7**	**36.9**	**0.7**
Kindergarten	74	19.9	18.2	0.9
First Grade	92	52.8	62.0	1.2
Second Grade	88	51.3	36.6	0.7
Third Grade	79	57.6	42.7	0.7
Fourth Grade	89	90.3	36.7	0.4
Fifth Grade	72	21.9	18.2	0.8
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Britton Elementary School	**496**	**40.4**	**26.8**	**0.7**
Kindergarten	98	38.9	33.5	0.9
First Grade	63	78.9	52.6	0.7
Second Grade	95	55.4	29.0	0.5
Third Grade	77	28.1	19.8	0.7
Fourth Grade	84	15.9	8.3	0.5
Fifth Grade	79	31.5	21.9	0.7
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Brown Elementary School	**571**	**50.9**	**30.5**	**0.6**
Kindergarten	51	74.5	48.9	0.7
First Grade	117	70.4	47.1	0.7
Second Grade	97	48.5	23.7	0.5
Third Grade	92	61.4	35.1	0.6
Fourth Grade	97	51.7	28.6	0.6
Fifth Grade	117	14.0	9.3	0.7
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Darby Creek Elementary School	**492**	**62.3**	**45.1**	**0.7**
Kindergarten	77	19.5	23.6	1.2
First Grade	69	36.7	33.7	0.9
Second Grade	93	87.6	52.2	0.6
Third Grade	92	71.8	47.0	0.7
Fourth Grade	59	109.6	71.5	0.7
Fifth Grade	102	53.1	45.7	0.9
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Hilliard Crossing Elementary School	**510**	**29.8**	**24.4**	**0.8**
Kindergarten	98	43.9	41.6	0.9
First Grade	73	38.9	33.1	0.8
Second Grade	98	35.8	21.2	0.6
Third Grade	81	32.0	25.2	0.8
Fourth Grade	78	17.2	12.3	0.7
Fifth Grade	82	7.6	10.7	1.4

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Hilliard Horizon Elementary School	**635**	**38.9**	**26.4**	**0.7**
Kindergarten	108	10.6	17.2	1.6
First Grade	91	85.9	64.7	0.8
Second Grade	105	38.2	17.9	0.5
Third Grade	101	51.0	25.4	0.5
Fourth Grade	113	29.9	15.8	0.5
Fifth Grade	117	27.4	23.9	0.9
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Hoffman Trails Elementary School	**498**	**33.6**	**33.3**	**1.0**
Kindergarten	91	3.9	12.9	3.3
First Grade	69	21.0	24.8	1.2
Second Grade	74	64.3	52.1	0.8
Third Grade	107	45.1	41.4	0.9
Fourth Grade	76	44.7	47.0	1.1
Fifth Grade	81	24.2	23.0	0.9
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
J W Reason Elementary School	**499**	**55.7**	**37.8**	**0.7**
Kindergarten	98	44.6	31.8	0.7
First Grade	92	93.8	60.5	0.6
Second Grade	89	44.5	33.7	0.8
Third Grade	88	57.1	40.8	0.7
Fourth Grade	70	46.7	26.5	0.6
Fifth Grade	62	40.9	28.3	0.7
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Norwich Elementary School	**252**	**23.0**	**21.5**	**0.9**
Kindergarten	55	22.6	26.7	1.2
First Grade	82	23.3	22.5	1.0
Second Grade	15	17.5	11.7	0.7
Third Grade	18	21.0	10.9	0.5
Fourth Grade	40	21.9	13.5	0.6
Fifth Grade	42	26.5	28.4	1.1
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Ridgewood Elementary School	**524**	**43.6**	**29.9**	**0.7**
Kindergarten	33	8.8	7.8	0.9
First Grade	96	51.5	42.9	0.8
Second Grade	102	57.0	28.1	0.5
Third Grade	96	52.0	41.8	0.8
Fourth Grade	100	49.5	28.1	0.6
Fifth Grade	97	18.9	16.4	0.9

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Scioto Darby Elementary School	**478**	**44.0**	**36.1**	**0.8**
Kindergarten	63	32.0	39.8	1.2
First Grade	87	43.4	38.0	0.9
Second Grade	76	29.2	25.7	0.9
Third Grade	68	27.9	25.4	0.9
Fourth Grade	83	60.4	38.0	0.6
Fifth Grade	101	60.7	45.5	0.7
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Washington Elementary School	**433**	**75.9**	**60.1**	**0.8**
Kindergarten	53	54.4	50.3	0.9
First Grade	74	97.5	70.2	0.7
Second Grade	85	94.2	61.9	0.7
Third Grade	88	71.2	56.8	0.8
Fourth Grade	61	63.8	72.4	1.1
Fifth Grade	72	63.6	48.6	0.8

Hilliard City School District - Event History

Start Date	School/District	ES Event Type
9/10/2014	HILLIARD CITY SCHOOL DISTRICT	Intro to ST Math Training Part 1
9/11/2014	HILLIARD CITY SCHOOL DISTRICT	Intro to ST Math Training Part 1
9/25/2014	HILLIARD CITY SCHOOL DISTRICT	Intro to ST Math Training Part 1
9/25/2014	HILLIARD CITY SCHOOL DISTRICT	Intro to ST Math Training Part 1
10/2/2014	HILLIARD HORIZON ELEM SCHOOL	Site Visit
10/13/2014	J W REASON ELEMENTARY SCHOOL	Site Visit
10/13/2014	J W REASON ELEMENTARY SCHOOL	Implementation Planning Meeting
10/15/2014	HILLIARD CITY SCHOOL DISTRICT	Intro to ST Math Training Part 2
10/15/2014	HILLIARD CITY SCHOOL DISTRICT	Intro to ST Math Training Part 2
10/21/2014	HILLIARD CROSSING ELEM SCHOOL	Site Visit
10/21/2014	NORWICH ELEMENTARY SCHOOL	Site Visit
10/22/2014	HILLIARD CITY SCHOOL DISTRICT	Intro to ST Math Training Part 2
10/22/2014	HILLIARD CITY SCHOOL DISTRICT	Intro to ST Math Training Part 2
10/23/2014	HILLIARD CITY SCHOOL DISTRICT	Intro to ST Math Training Part 2
10/23/2014	HILLIARD CITY SCHOOL DISTRICT	Intro to ST Math Training Part 2
11/12/2014	SCIOTO DARBY ELEMENTARY SCHOOL	Site Visit
11/12/2014	BRITTON ELEMENTARY SCHOOL	Site Visit
11/12/2014	NORWICH ELEMENTARY SCHOOL	Site Visit
11/13/2014	BRITTON ELEMENTARY SCHOOL	Site Visit
11/13/2014	AVERY ELEMENTARY SCHOOL	Site Visit
12/15/2014	BEACON ELEMENTARY SCHOOL	Site Visit
1/14/2015	BEACON ELEMENTARY SCHOOL	Site Visit

1/14/2015	BEACON ELEMENTARY SCHOOL	Data Meeting
1/29/2015	DARBY CREEK ELEMENTARY SCHOOL	Site Visit
1/29/2015	DARBY CREEK ELEMENTARY SCHOOL	Data Meeting
2/10/2015	HILLIARD CROSSING ELEM SCHOOL	Data Meeting
2/17/2015	HILLIARD CITY SCHOOL DISTRICT	Intro to ST Math Training Part 2
2/18/2015	J W REASON ELEMENTARY SCHOOL	Data Meeting
2/23/2015	DARBY CREEK ELEMENTARY SCHOOL	Data Meeting
2/25/2015	AVERY ELEMENTARY SCHOOL	Site Visit
2/25/2015	AVERY ELEMENTARY SCHOOL	Data Meeting
2/26/2015	DARBY CREEK ELEMENTARY SCHOOL	Site Visit
3/2/2015	SCIOTO DARBY ELEMENTARY SCHOOL	Data Meeting
3/11/2015	HILLIARD CROSSING ELEM SCHOOL	Site Visit
3/12/2015	SCIOTO DARBY ELEMENTARY SCHOOL	Intro to ST Math Training Part 2
3/12/2015	SCIOTO DARBY ELEMENTARY SCHOOL	Intro to ST Math Training Part 2
3/17/2015	ALTON DARBY ELEMENTARY SCHOOL	Data Meeting, Site Visit
3/18/2015	AVERY ELEMENTARY SCHOOL	Intro to ST Math Training Part 2
3/19/2015	WASHINGTON ELEMENTARY SCHOOL	Intro to ST Math Training Part 2
3/19/2015	WASHINGTON ELEMENTARY SCHOOL	Intro to ST Math Training Part 2
3/22/2015	WASHINGTON ELEMENTARY SCHOOL	Data Meeting
3/31/2015	HILLIARD HORIZON ELEM SCHOOL	Site Visit
4/16/2015	BROWN ELEMENTARY SCHOOL	Data Meeting, Intro to ST Math Training Part 2
4/29/2015	J W REASON ELEMENTARY SCHOOL	Site Visit
4/30/2015	BROWN ELEMENTARY SCHOOL	Site Visit
5/21/2015	HILLIARD CITY SCHOOL DISTRICT	Data Meeting, Planning Meeting

Summary

Worthington City School District completed the year with 4974 active students on the ST Math program with 18.9% average syllabus progress. Usage and progress varied throughout the district. This was a year for teachers to learn about and use the program to see how it best meets their needs for supporting student achievement in mathematics. The district has a lot of other software programs that they use with the teacher choosing what will best support the teaching and learning of mathematics.

There were four district-wide trainings. In addition, the Education Consultant and other MIND Research Institute representatives conducted school based trainings; classroom modeling; data meetings and site visits at buildings throughout the district. Each training, data and site meeting was tailored to meet the needs of the school or district as a whole. The Education Consultant will be conducting two additional half day trainings on July 29, 2015. This training will focus on looking at the data in a deeper and more meaningful way, managing curriculum and strategies to differentiate to meet the needs of the students.

Challenges

During the 2015-16 school year the district had many initiatives and other competing math programs. One of the concerns expressed by Worthington teachers is the available time for ST Math. The teachers are challenged with managing the recommended time of 60 to 90 minutes per week for ST Math use. They have expressed a need for test prep and that has been their focus.

The district would like to provide more support for the ESL students. The Education Consultant is working with the district Math Coordinator and the District ESL Coordinator to provide additional support for the ESL students. A specialized training will be created for the ESL teachers and support site visits will be set up for the year. The district would like the training to include a focus on language and literacy development to help students to make the connections.

The middle and high school teachers need more support in understanding how to best utilize ST Math with their students. Strategies for implementation have been shared with the Math Coordinator. The Education Consultant will work with the Math Coordinator to plan specific opportunities for these teachers to receive additional support.

Next Steps and Reflection

During the 2014-15 school year several things were accomplished. Throughout the district, teachers and principals have spent this year getting acclimated to the program. Several teachers have been trained on the program and have an understanding of how the program and what it is designed to do.

As we move toward the 2015-16 school year, the Education Consultant will continue to work with the district Math Coordinator and the district ESL Coordinator to plan time to meet with the district trainers, and math liaisons to monitor progress and provide support. The teachers have expressed interest in receiving additional professional development. They would like more training on the fluency module as well as data and reporting. The Education Consultant will be hosting 3 webinars for the district. These webinars will be structured to meet the needs determined in the district and to

provide further support for the teachers in their implementation of ST Math. In addition to the webinars, a Google doc for scheduling site visits will be set up. This will enable the principal to strategically schedule site visits to support the needs of his/her building.

The Education Consultant will also provide additional support to the district Math Coordinator in monitoring the implementation of ST Math. The goal is to meet on a regular basis with the district Math Coordinator to determine support needs. The Education Consultant will also send the district coordinator several data points to help monitor the use of ST Math throughout the school year.

The district is designing math extension courses that will use ST Math for the 2015-16 school year. The Education Consultant will work with the math coordinator to determine what support can be provided to help the district with this initiative. This is an opportunity to help the teachers dig deeper into the ST Math program and help students uncover the math that they are learning.

ST Math Progress Data

District ST Math Progress by School

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Worthington School District	**4974**	**23.2**	**18.9**	**0.8**
Bluffsview Elementary School	358	32.6	27.4	0.8
Brookside Elementary School	276	22.4	14.5	0.6
Colonial Hills Elementary School	407	41.1	35.6	0.9
Evening Street Elementary School	428	22.4	20.9	0.9
Granby Elementary School	377	33.7	29.2	0.9
Kilbourne Middle School	105	11.1	4.1	0.4
Liberty Elementary School	416	19.2	17.2	0.9
McCord Middle School	54	27.6	4.7	0.2
Phoenix Middle School	161	6.9	5.0	0.7
Slate Hill Elementary School	517	24.2	19.7	0.8
Thomas Worthington High School	57	7.4	1.0	0.1
Wilson Hill Elementary School	509	25.6	22.2	0.9
Worthington Estates Elementary School	172	29.3	18.1	0.6
Worthington Hills Elementary School	374	19.0	19.4	1.0
Worthington Kilbourne High School	104	1.7	1.1	0.6
Worthington Park Elementary School	286	20.5	15.3	0.7
Worthingway Middle School	373	7.2	1.5	0.2

School ST Math Progress by Grade

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Bluffsview Elementary School	**358**	**32.6**	**27.4**	**0.8**
Kindergarten	41	44.1	37.9	0.9
First Grade	58	22.6	14.3	0.6
Second Grade	34	8.1	6.3	0.8
Third Grade	52	30.8	27.7	0.9
Fourth Grade	45	48.9	48.4	1.0
Fifth Grade	63	19.2	19.4	1.0
Sixth Grade	65	50.2	36.6	0.7

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Brookside Elementary School	**276**	**22.4**	**14.5**	**0.6**
Kindergarten	40	5.5	7.9	1.4
First Grade	39	20.0	15.4	0.8
Second Grade	39	13.8	9.9	0.7
Third Grade	34	16.8	11.9	0.7
Fourth Grade	39	51.4	28.7	0.6
Fifth Grade	46	26.1	17.1	0.7
Sixth Grade	39	22.2	10.1	0.5
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Colonial Hills Elementary School	**407**	**41.1**	**35.6**	**0.9**
Kindergarten	63	23.1	47.0	2.0
First Grade	60	30.9	44.9	1.5
Second Grade	75	25.8	24.3	0.9
Third Grade	51	58.0	33.1	0.6
Fourth Grade	54	57.5	38.4	0.7
Fifth Grade	49	72.6	47.8	0.7
Sixth Grade	55	33.6	16.8	0.5
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Evening Street Elementary School	**428**	**22.4**	**20.9**	**0.9**
Kindergarten	1	6.0	4.1	0.7
First Grade	79	12.4	24.6	2.0
Second Grade	86	22.6	20.5	0.9
Third Grade	49	30.3	20.6	0.7
Fourth Grade	87	46.6	38.2	0.8
Fifth Grade	68	7.4	7.1	1.0
Sixth Grade	58	10.3	7.0	0.7
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Granby Elementary School	**377**	**33.7**	**29.2**	**0.9**
Kindergarten	1	3.0	0.0	0.0
First Grade	69	10.3	22.8	2.2
Second Grade	78	13.8	16.7	1.2
Third Grade	62	89.0	63.8	0.7
Fourth Grade	42	15.2	9.0	0.6
Fifth Grade	56	32.6	26.5	0.8
Sixth Grade	69	42.5	33.5	0.8
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Kilbourne Middle School	**105**	**11.1**	**4.1**	**0.4**
Sixth Grade MSS	13	11.5	8.9	0.8
Seventh Grade MSS	43	6.1	0.6	0.1
Eighth Grade MSS	49	15.3	6.0	0.4

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Liberty Elementary School	**416**	**19.2**	**17.2**	**0.9**
Kindergarten	47	4.4	5.7	1.3
First Grade	54	8.0	12.4	1.5
Second Grade	87	7.0	4.3	0.6
Third Grade	86	23.1	15.2	0.7
Fourth Grade	63	44.6	42.2	0.9
Fifth Grade	21	37.0	47.6	1.3
Sixth Grade	58	20.4	15.4	0.8
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
McCord Middle School	**54**	**27.6**	**4.7**	**0.2**
Seventh Grade MSS	11	19.1	3.6	0.2
Eighth Grade MSS	43	29.8	5.0	0.2
Phoenix Middle School	161	6.9	5.0	0.7
Seventh Grade MSS	52	9.2	5.7	0.6
Eighth Grade MSS	109	5.8	4.7	0.8
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Slate Hill Elementary School	**517**	**24.2**	**19.7**	**0.8**
Kindergarten	75	15.2	19.5	1.3
First Grade	68	23.0	29.2	1.3
Second Grade	72	25.8	20.2	0.8
Third Grade	77	8.7	6.1	0.7
Fourth Grade	68	38.3	26.0	0.7
Fifth Grade	68	27.3	20.7	0.8
Sixth Grade	89	31.9	18.1	0.6
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Thomas Worthington High School	**57**	**7.4**	**1.0**	**0.1**
High School Intervention	57	7.4	1.0	0.1
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Wilson Hill Elementary School	**509**	**25.6**	**22.2**	**0.9**
Kindergarten	61	19.7	36.5	1.9
First Grade	92	23.6	33.2	1.4
Second Grade	74	55.9	37.6	0.7
Third Grade	61	32.2	22.6	0.7
Fourth Grade	68	21.0	11.6	0.6
Fifth Grade	65	21.8	11.1	0.5
Sixth Grade	88	8.1	4.1	0.5

	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Worthington Estates Elementary School	**172**	**29.3**	**18.1**	**0.6**
Kindergarten	2	1.5	3.2	2.1
Second Grade	89	30.7	20.7	0.7
Third Grade	2	37.5	11.4	0.3
Fourth Grade	2	16.5	5.5	0.3
Fifth Grade	44	47.6	26.5	0.6
Sixth Grade	33	3.3	1.7	0.5
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Worthington Hills Elementary School	**374**	**19.0**	**19.4**	**1.0**
Kindergarten	9	17.0	18.1	1.1
First Grade	75	5.9	11.2	1.9
Second Grade	71	9.3	7.7	0.8
Third Grade	30	16.4	15.2	0.9
Fourth Grade	53	21.5	19.6	0.9
Fifth Grade	66	25.4	30.7	1.2
Sixth Grade	70	36.5	31.0	0.8
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Worthington Kilbourne High School	**104**	**1.7**	**1.1**	**0.6**
High School Intervention	104	1.7	1.1	0.6
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Worthington Park Elementary School	**286**	**20.5**	**15.3**	**0.7**
Kindergarten	25	25.9	50.4	1.9
First Grade	1	8.0	10.6	1.3
Second Grade	51	19.4	13.0	0.7
Third Grade	39	15.3	8.5	0.6
Fourth Grade	51	28.6	13.8	0.5
Fifth Grade	56	13.3	15.0	1.1
Sixth Grade	63	22.5	9.1	0.4
	Students	ST Math Logins	Average Syllabus Progress	Average Syllabus Progress per Login
Worthingway Middle School	**373**	**7.2**	**1.5**	**0.2**
Seventh Grade MSS	191	9.2	1.7	0.2
Eighth Grade MSS	182	5.1	1.2	0.2

Worthington School District - Event History

Date	School/District	Event Type
10/7/2014	WORTHINGTON SCHOOL DISTRICT	Implementation Planning Meeting
10/15/2014	WORTHINGTON SCHOOL DISTRICT	Intro to ST Math Training Part 1
10/15/2014	WORTHINGTON SCHOOL DISTRICT	Intro to ST Math Training Part 1
10/16/2014	WORTHINGTON SCHOOL DISTRICT	Intro to ST Math Training Part 1
10/16/2014	WORTHINGTON SCHOOL DISTRICT	Intro to ST Math Training Part 1
11/12/2014	SLATE HILL ELEMENTARY SCHOOL	Site Visit
11/12/2014	WILSON HILL ELEMENTARY SCHOOL	Site Visit
11/13/2014	LIBERTY ELEMENTARY SCHOOL	Site Visit
11/14/2014	EVENING STREET ELEM SCHOOL	Site Visit
12/10/2014	GRANBY ELEMENTARY SCHOOL	Site Visit
12/11/2014	BROOKSIDE ELEMENTARY SCHOOL	Site Visit
12/11/2014	EVENING STREET ELEM SCHOOL	Site Visit
12/11/2014	WORTHINGTON ESTATES ELEM SCH	Site Visit
12/17/2014	BLUFFSVIEW ELEMENTARY SCHOOL	Site Visit
12/17/2014	EVENING STREET ELEM SCHOOL	Site Visit
12/17/2014	BROOKSIDE ELEMENTARY SCHOOL	Site Visit
1/7/2015	EVENING STREET ELEM SCHOOL	Site Visit
1/7/2015	EVENING STREET ELEM SCHOOL	Data Meeting
1/27/2015	EVENING STREET ELEM SCHOOL	Site Visit
2/6/2015	WORTHINGTON SCHOOL DISTRICT	Data Meeting, Planning Meeting
2/18/2015	SLATE HILL ELEMENTARY SCHOOL	Data Meeting, Site Visit
3/9/2015	COLONIAL HILLS ELEM SCHOOL	Site Visit
3/24/2015	EVENING STREET ELEM SCHOOL	Site Visit
3/26/2015	WILSON HILL ELEMENTARY SCHOOL	Data Meeting
4/23/2015	WORTHINGTON SCHOOL DISTRICT	Data Meeting, Planning Meeting
4/24/2015	COLONIAL HILLS ELEM SCHOOL	Data Meeting
4/29/2015	BLUFFSVIEW ELEMENTARY SCHOOL	Site Visit
4/29/2015	COLONIAL HILLS ELEM SCHOOL	Site Visit
5/11/2015	LIBERTY ELEMENTARY SCHOOL	Data Meeting
5/12/2015	WORTHINGTON PARK ELEM SCHOOL	Data Meeting