Math Matters:
Transforming Math Education
for 21st Century Success

Mid-Year Report

January 30th, 2015

THE PAST FOUNDATION

Math Matters
January 30th, 2015 Mid-Year Report
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MATH MATTERS Mid-Year Report
FORMATIVE EVALUATION

The Knowledge Capture (KC) Program conducted evaluation during the second quarter of implementation for the Math Matters Project, during the period beginning October 19, 2014 to January 9, 2015. A chronology table of KC evaluation activities for all work conducted is presented in the Appendix of this report (Appendix Table 1).

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 over 100 buildings in Fairfield and Franklin county school districts. As of January 9, 2015, training in classroom use of ST Math is well underway. Implementation of ST Math for the 71 elementary schools selected by Fairfield Education Service Center (ESC) has been initiated in 80% of schools across Fairfield and Franklin counties (n=57). Of the 19 middle schools awarded a Math Matters grant, implementation of ST Math has been initiated in 84% of schools (n=16), and of the nine high schools across both counties, implementation has been initiated in 66% of schools selected for the ST Math program (n=6).

Evaluation conducted by KC focused on observation of ST Math program training, and on-site follow-up with Math Matters schools including district and building administrators, classroom teachers, math and curriculum coordinators, and intervention specialists. Overall, the KC team has conducted observation of training of elementary teachers from 56 of the 57 schools that have launched ST Math for classroom use, 15 of the 16 middle schools, and all six of the high schools that have initiated teacher training. In Table A, "*Overview of ST Math Program Training and Program Support for Elementary, Middle and High School*," note that KC has conducted observation of training involving teachers from all Fairfield County Math Matters schools.

Observation of teacher training in Franklin County reflects the fact that fewer schools have fully launched use of ST Math (particularly the elementary level schools) due to delays in acquiring laptops or other devices (tablets, computer carts, etc.). These schools have also experienced constraints resulting from complications associated with technical support essential to classroom use of ST Math. However, as of the end of the fall term in December of 2014, the Franklin County School Districts were reporting that they anticipated training to begin during January 2015.

Table A: Overview of ST Math Program Training and Program Support
for Elementary, Middle, and High School

Knowledge Capture (KC) Program Observation August 2014 to January 2015

County	Elementary Schools			Middle Schools			High Schools		
	Grant Recipient Identified by Fairfield ESC [Aug. 2014]	ST Math Training Initiated [Aug. 2014-Jan. 2015]	KC Obser-vations	Grant Recipient Identified by Fairfield ESC [Aug. 2014]	ST Math Training Initiated [Aug. 2014-Jan. 2015]	KC Obser-vations	Grant Recipient Identified by Fairfield ESC [Aug. 2014]	ST Math Training Initiated [Aug. 2014-Jan. 2015]	KC Obser-vations
Fairfield	17	17	17	5	5	5	1	1	1
Franklin	54	40	39	14	11	10	8	5	5
TOTALS:	71	57	56	19	16	15	9	6	6

Training options for schools using ST Math initially included three main program options (see Appendix Table 2: Overview of Training Plan by District and School):

- Plan A: Self-Guided Training
- Plan B: Self-Guided and Webinar training
- Plan C: On-site Training

Seven of the nine Math Matters school districts selected Plan C: On-site Training, and two districts selected Plan A: Self-Guided training. Appendix Table 3 presents an overview of all training by district and school, and shows that training has occurred in the following categories:

- On-site training, Part 1
- On-site training, Part 2
- On-site follow-up "abbreviated" training
- On-site building level "data meetings" to review use of ST Math student data reports
- On-site support for classroom teachers and others directly engaged with students using ST Math

Appendix Table 3 also lists schools that have advanced to integration of ST Math in the classroom and have had follow-up "data meetings" with building leaders as well as with building content coordinators and classroom teachers on use of ST Math student data reports. Additional training support has been conducted on-site either in the classroom with individual teachers, or in computer lab settings to assist teachers and intervention specialists with instructional strategies for integrating ST Math at the classroom level.

KC observation of Part 1 training was initiated about 1 month after ST Math training began. Observation has been conducted for 63% of the Part 1 training sessions, and 94% of all Part 2 training sessions. Additionally, observation of 94% of the abbreviated training sessions has been conducted. KC observation has also been conducted for 90% of all on-site data meetings that occurred through January 9, 2015, and 53% of school on-site training targeted to teacher support for classroom use, or computer lab settings.

In the discussion that follows, thematic analysis of issues identified by teachers during training sessions is organized to consider elementary, middle and high school level trends across all districts and counties. In this perspective it is possible to identify particular issues associated with grade level use (elementary and middle) as well as application of ST Math in an intervention context at the high school level. While there are districts that are using ST Math primarily in an intervention context with K-12 students whose skills are below grade level, English language learners (ELL), or gifted students, these programs will be more fully explored during the third and fourth quarters of program implementation (February to June 2015). Evaluation of ST Math use by intervention specialists will rely on interviews with program leads, and will also develop through focus groups and surveys targeted to teachers and aides.

Every observation is reported in a bullet point report format using a thematic organization to frame issues across all training sessions. These reports are presented in the Appendix (note: reports are coded to assure anonymity for participants whose views are documented for analysis). These include (16) observations of elementary level training sessions, (10) middle school level training sessions, and (3) K-12 sessions. The issues identified among elementary, middle, and K-12 sessions are further discussed in the sections that follow that include "ST Math Success as Reported by Teachers," "ST Math Best Practices," and "Technical Challenges for Implementing ST Math."

ST Math Success

Teachers report they are experiencing improvement in student engagement with math learning, as well as seeing grade-level skill advancement with use of ST Math. *Table B: ST Math Success as Reported by Teachers* presents seven key themes identified from across all nine districts. These include:

- Password Retention
- Student Learning
- Student Engagement
- Teacher Engagement
- Principal Engagement
- Parent Engagement
- Increasing ST Math Time

Table B: ST Math Success as Reported by Teachers
October 22, 2014 to January 9, 2015 (n=number of observations)

Themes	Sub-Themes	ES (n=16)	MS (n=10)	K-12 (n=3)
Password Retention	Students with learning disabilities are able to learn their passwords	✓		
	Most students remember passwords quickly	✓		
	Low-skilled student successful with password training	✓		
Student Learning	Students are developing a deeper understanding of math; developing different strategies to problem solve	✓	✓	
	Some students work with pencil and paper to solve ST Math games without teacher prompting	✓	✓	
	Students are engaged in productive struggle	✓		
	Manipulatives and game mats help students work through the puzzles	✓		
	Students are working independently		✓	
Student Engagement	Students enjoy ST Math	✓	✓	
	Students asked about playing ST Math at home	✓		
	Some students work on ST Math during indoor recess	✓		
	Some students take time to review quiz results	✓		
	Some students compete while playing ST Math games	✓		
	Gifted students are excelling at the program	✓	✓	
	Special education students are successful with ST Math	✓	✓	
	ST Math encourages dialogue with struggling and shy students		✓	
	ST Math engages students with limited English language ability	✓	✓	
	Students advise and encourage others working on ST Math games	✓		
Teacher Engagement	Buy-in with teachers is increasing	✓	✓	
	Teachers anticipate test score increases after the next assessment	✓		
	Special education teachers appreciate ST Math	✓	✓	
	Teachers find ST Math user-friendly; videos are helpful	✓		
	Teachers find it simple to check student progress daily		✓	
	Some teachers now use ST Math instead of other resources	✓		
	Some non-math teachers have completed self-guided courses	✓		
	Teachers appreciate the MRI Teacher Resource Site	✓		
Principal Engagement	Principals are excited about having ST Math in the building	✓		
	Principal wants to establish "JiJi Culture"	✓		
Parent Engagement	Parents like ST Math homework	✓		
Increasing ST Math Time	Teacher has been using ST Math 20 minutes daily	✓		
	Classes are devoting 60-75 minutes per week	✓		
	Grade level scheduled ST Math twice a week	✓		

Within the seven main categories, the data is further defined by sub-themes associated with elementary level, middle and K-12 teacher experience with ST Math. Eight sub-themes shared by some elementary and middle level teachers include views held by K-8 teachers about their experience with ST Math regarding students as well as teacher engagement:

- Students are gaining a deeper understanding of math and are demonstrating use of different problem solving strategies
- Students are solving ST Math problems using paper and pencil without prompting
- Students are engaged in using ST Math and enjoy math learning
- Gifted students are engaging in ST Math and advancing their skills
- Special education students also appear to be engaged with math learning through ST Math
- ST Math can be used effectively with ELL students
- Special education teachers are seeing a benefit to use of ST Math with their students
- Teacher "buy-in" is increasing with growing interest by teachers who are exposed to ST Math

Teacher buy-in to use of ST Math has also surfaced in a range of instances where first-year implementation is being either phased in by grade level, or limited to use by intervention specialists. Additionally, some teachers and building leaders have seen ST Math as parents of children assigned ST Math homework. Anecdotal information about the reaction of teachers and administrators who are not currently using ST Math is surfacing as a topic of discussion during on-site training sessions. Teachers from at least 26 schools (22 elementary schools, 2 middle schools, 1 middle/high school, and 1 high school) reported that other teachers in their building are asking about ST Math, including requesting PD/training in order to use ST Math with their students (see "Grassroots" column in *Appendix Table 2: ST Math Overview of Training Plan by District and School*).

Some schools have expanded access to ST Math training on a voluntary basis to teachers who express an interest. This is especially true for schools where intervention

specialists are required to complete the training and initiate use of ST Math with their students. As grade-level teachers see the impact of the ST Math program, they are voluntarily coming forward to attend training sessions. It should also be noted that two Fairfield County school districts, Lancaster City Schools and Pickerington Local Schools, initiated an implementation plan based on an informal "train-the-trainer" model, providing training initially for 3-4 individuals per school, with the intent to expand training on-site led by school staff. This aspect of the year-one implementation plan will be discussed later in this report.

ST Math Best Practices

Key themes identified by teachers during training sessions include four main categories (see *Table C: ST Math Best Practices*):

- Fostering Teacher Buy-In
- Fostering Student Buy-In
- Fostering Parent/Community Buy-In
- Increasing ST Math Time (for students)

Fostering buy-in ranges from efforts to grow "JiJi" culture within the building to increase awareness and interest of students and their parents in ST Math, to organizing "ST Math Days" and afterschool social events. Additionally teachers are also creatively engaging older students through tutoring lower grade level students in use of ST Math. Some teachers have created ST Math bulletin boards where students are encouraged to share tips and strategies for math problem solving.

The range of strategies for growing teacher buy-in is also a topic of discussion during training sessions where teachers discuss how PD time is being devoted to training in ST Math, or instructional coaches within the district are providing additional support for teachers to work together to develop ST Math instructional capacity. Strategies for increasing time to meet weekly goals is also emerging as a topic among teachers who are sharing their experiences in exploring different ways, whether small group work or student rotation, to give students the recommended time for effective use of ST Math.

Table C: ST Math Best Practices
October 22, 2014 to January 9, 2015
(n=number of observations)

Theme	Sub-theme	ES (n=16)	MS (n=10)	K-12 (n=3)
Fostering Teacher Buy-In	District leader plans to grow "JiJi Culture" during Year Two of ST Math implementation			✓
	Instructional coach will develop core group of teachers who will work with others in the building	✓		
	PD time is being used to train in ST Math		✓	
	Teacher volunteered to "cheerlead," encourage other teachers to use ST Math	✓		
	Gifted specialists are promoting ST Math in their buildings	✓		
	District leader will place a liaison in each building to make ST Math implementation more efficient			✓
Fostering Student Buy-In	Teachers track student progress with stickers on classroom posters		✓	
	Holding ST Math Days and Afterschool social events		✓	
	Teachers appoint students to be "JiJi Consultants" who work with classmates during ST Math time		✓	
	Older students provide ST Math tutoring for lower grade students	✓		
	Students share ST Math tips, tools and strategies on classroom bulletin board		✓	
	Building has "JiJi Wall" where postcards are placed on a map tracking JiJi's progress	✓	✓	
	Students and Teachers dressed up as JiJi for Halloween		✓	
	Teachers encourages students with low completion to do extra sessions of ST Math at home and at school		✓	
Fostering Parent & Community Buy-In	District leader is planning family "JiJi nights" where parents play ST Math games			✓
	Conduct parent and community outreach about ST Math		✓	
Increasing ST Math Time	Some teachers doing whole-class ST Math	✓		
	Some teachers divide the class, doing small group instruction with some students while other do ST Math	✓		
	Some teachers have stations a few times per week with a full class session once per week	✓		
	ST Math is being used during intervention time with students performing below grade level	✓		
	ST Math is being used during intervention time with students with cognitive impairment		✓	

TECHNICAL CHALLENGES FOR IMPLEMENTING ST MATH

This report includes a brief review of the process for schools, IT support staff, computer or technology instructors, and others who have taken on the task of supporting the transition to blended learning school environments. In some cases, schools have been transitioning over time toward the goal of increasing the ratio of devices to students, including computers or laptops in classrooms, converting existing classrooms to computer labs, or building the inventory of mobile computer carts available throughout the school.

However, for some of the Math Matters Program schools, purchasing new devices is occurring in one large wave, stretching technical support to its limits. In these instances, teachers are also confronted with making the transition to use of technology in the classroom on a daily or weekly basis. Aside from these issues, there are other very real constraints associated with older buildings that are not "tech friendly," where internet access is minimally capable of supporting concurrent multiple devices logging on (bandwidth issues).

Many of the issues identified in *Table D: Technical Challenges for Implementing ST Math* are emerging during initial implementation stages. Many of these issues will likely be resolved at the institutional level (district-wide solutions), or will be resolved with further training and support by the ST Math Implementation team.

Key areas described by teachers include six main areas of difficulty:

- Access to Technology
- Rostering (teachers and students)
- Login/Log out problems
- Portal Issues
- Student Access
- Multiple Accounts (teachers and students)

Additionally, the upcoming *Partnership for Assessment of Readiness for College and Careers* (PARCC) student assessment may require that computers and pads be dedicated to use with computer-based tests, adding another short-term constraint.

Table D: Technical Challenges for Implementing ST Math
October 22, 2014 to January 9, 2015

Themes	Sub-themes	ES (n=16)	MS (n=10)	K-12 (n=3)
Access to Technology and ST Math	Internet access at the school is inconsistent	✓		✓
	Available technology does not work	✓	✓	
	Difficulty accessing ST Math on iPads	✓	✓	
	School received fewer iPad minis than expected		✓	
	District over-budgeted for technology			✓
	Technology unavailable due to PARCC testing	✓	✓	
	Chrome book access is limited to ESL students and teachers			✓
	Schools have not received their Chrome books			✓
	District firewalls are creating issues with Chrome book usage			✓
	Increase in traffic on the site has caused access issues		✓	
	Buildings have limited amount of technology available	✓	✓	
	Chrome books ordered for school with no Chrome log-in		✓	
	High demand for the computer labs limits time for ST Math	✓		
	ST Math site inaccessible when students tried to log on	✓		
	DOD attacks impacted ST Math usage	✓	✓	
Rostering	Errors in district rostering	✓	✓	
	Teachers incorrectly identified/not identified in ST Math	✓		
	Some students are not registered	✓		
Login/ Log Out	Some students are having trouble logging on		✓	
	Teachers have been experiencing a number of login issues	✓		
	Students lose data by logging out incorrectly	✓	✓	
	Long-term substitute does not have own login user name	✓		
Portal Issues	Some computers were incorrectly configured to specific schools	✓		
	Building does not appear as option for ST Math log in	✓		
	iPads identify wrong buildings	✓		
	Some computers are not saving the school code	✓	✓	
	Portal issues with transferring students from other buildings	✓	✓	✓
Student Access	Students accidentally deleted the ST Math app from iPads	✓		
	Gifted students need access to upper level curriculum	✓		
	Many students do not have access to technology to use at home		✓	
Multiple Accounts	Teachers cannot close mistakenly created multiple classes/accounts	✓	✓	
	Some students have two ST Math accounts	✓		

Knowledge Capture Evaluation Plan February to June 2015

Evaluation of the Math Matters Program has already initiated a shift from structured observations to one-on-one interviews with district staff including curriculum coordinators, math specialists, and intervention program leads. Particular schools in the Lancaster and Pickerington school districts will also be the focus of one-on-one interviews with principals or others who are engaged with directing ST Math implementation in a "train-the-trainer" model (see Appendix Table 2).

These schools (15 elementary and 5 middle schools across both districts) can potentially offer the opportunity to track a model for implementation that may provide insight for sustaining use of ST Math in a short-term context. In this approach the strategy for building ST Math competency for teachers is being intentionally developed during early stages of year-one training of the Math Matters Program. Their experience and potential success for embedding ST Math expertise within their districts is an important process that will be documented for the broader benefit of the nine Math Matters school districts.

Additionally, formal inquiry is already underway to identify potential dates and locations for teacher focus groups to occur during the mid-spring timeframe (post-student testing). Additionally, focus groups and surveys will be conducted during May, 2015 when MIND Research will conduct ST Math Train-the-Trainer session(s), as well as during the June Academy that will be held at the end of the 2015 academic year.

Knowledge Capture
APPENDIX
Math Matters

ST Math Implementation Tables
Table 1: Math Matters Chronology of Knowledge Capture Activities
October 22, 2014 to January 9, 2015

Table 2: ST Math Overview of Training by District and School
October 22, 2014 to January 9, 2015

Table 3: Math Matters: Observation of Program Training and Support
October 22, 2014 to January 9, 2015

ST Math Implementation Observations

Fairfield and Franklin Counties Elementary Schools Bullet Point Reports (16)
October 22, 2014 to January 9, 2015

Fairfield and Franklin Counties Middle Schools Bullet Point Reports (10)
October 22, 2014 to January 9, 2015

Fairfield and Franklin Counties K-12 Bullet Point Reports (3)
October 22, 2014-January 9, 2015

Math Matters: MIND Research Institute Mid-Year Report on ST Math
Report was produced by MIND Research Institute and submitted directly to the
Fairfield ESC. It is included here for reference only.
January 30, 2015

**Table 1: Math Matters Chronology of Knowledge Capture Activities
October 22, 2014-January 9, 2015**

KC Staff	Date	Event	BP*	Participants
MGC	10/22/14	Intro to ST Math Part 2	Yes	District Instructional Coach, elementary, special education, ELL, gifted, and Intervention teachers (19 participants)
MGC	10/22/14	Intro to ST Math Part 2	Yes	Director of Elementary Curriculum, elementary, special education, ELL, gifted, and intervention teachers (14 participants)
MSH	10/23/14	Intro to ST Math Part 2	Yes	District Instructional Coach, elementary, special education, ELL, gifted, and intervention teachers (20 participants)
MSH	10/23/14	Interview	No	District Instructional Coach
MGC	11/4/14	District-led Teacher Debrief	Yes	Teacher facilitated ST Math debrief with K-12 teachers (13 participants)
MGC	11/4/14	District-led Teacher Debrief	Yes	Teacher facilitated ST Math debrief with K-12 teachers (14 participants)
MSH/ MGC	11/6/14	Interview	No	District ESL Math Curriculum Coordinator
MGC	11/12/14	Site Visit	Yes	Principal, 16 Math Teachers
MGC	11/12/14	Site Visit	Yes	Principal, Instructional Coach, several classroom teachers
MGC	11/12/14	Site Visit	Yes	Instructional Coach, 1st and 3rd grade teachers
MGC	11/13/14	Intro to ST Math Part 1	Yes	District ESL Math Curriculum Coordinator, 4 classroom aides and 7 elementary classroom teachers (11participants)
MGC	11/13/14	Site Visit	Yes	District ESL Math Curriculum Coordinator and 3 teachers
MGC	11/18/14	Data Meeting; Site Visit	Yes	Principal, Assistant Principal, functional support services unit teacher, 6th and 7th grade teachers
MSH/AC	11/19/14	Meeting	No	Meeting with MIND staff to discuss ST Math implementation

*BP=Bullet Point Report

Table 1: Math Matters Chronology of Knowledge Capture Activities
October 22, 2014-January 9, 2015

KC Staff	Date	Event	BP*	Participants
MGC	11/20/14	Data Meeting; Site Visit	Yes	Principal, Assistant Principal, RTI team, and 5th and 6th grade teachers
MGC	11/21/14	Data Meeting	Yes	Principal and Intervention Coach
MGC	11/24/14	Site Visit	Yes	ST Math lead teacher and Curriculum Coordinator
LB	11/25/14	Data Meeting	Yes	Principal
MGC	12/1/14	Intro to ST Math Part 1 (abbreviated)	Yes	21 teachers, CCIT
MGC	12/3/14	Data Meeting; Site Visit	Yes	Assistant Principal and classroom teachers from grades 5 and 6
MGC	12/3/14	Intro to ST Math Part 2 (abbreviated)	Yes	19 classroom teachers
MGC	12/5/14	Site Visit	Yes	Principal and 7th and 8th grade classroom teachers
MGC	12/5/14	Site Visit	Yes	1st, 2nd, and 3rd grade teachers
MGC/KG	12/8/14	Meeting	Yes	District ESL Math Curriculum Coordinator
MGC	12/9/14	Site Visit	Yes	Special Education teachers, District Level Special Education Director, and Intervention Coach
MGC	12/9/14	Meeting	Yes	District Administrators and District Lead
MGC/KG	12/10/14	Intro to ST Math Part 2	Yes	9 middle school teachers
MGC/KG	12/11/14	Site Visit	Yes	District ST Math Leader and K-5 classroom teachers (10)
MGC/KG	12/11/14	Site Visit	Yes	District ST Math Leader, 2nd grade, 5th grade, and 6th grade classroom teachers
MGC/KG	12/11/14	Intro to ST Math Part 1 (abbreviated)	Yes	District ST Math Leader, Principal, 13 elementary teachers
MSH/ MGC	12/15/14	Interview	No	District Math Curriculum Coordinator

*BP=Bullet Point Report

**Table 1: Math Matters Chronology of Knowledge Capture Activities
October 22, 2014-January 9, 2015**

KC Staff	Date	Event	BP*	Participants
LB	12/15/14	Intro to ST Math Part 2 (abbreviated)	Yes	Math Coach, 21 teachers in morning session, 5 classroom visits
LB	12/16/14	Data Meeting; Site Visit	Yes	Assistant Principal, 5th and 6th grade teachers
MSH/ MGC	12/16/14	Interview	No	Assistant Principal
KG	12/16/14	Intro to ST Math Part 1	Yes	2 middle school teachers and 16 elementary school teachers
MSH/ MGC	12/18/14	Interview	No	Math Curriculum Coordinator and 3rd Grade Lead Teacher
MSH/ MGC	12/18/14	Interview	No	District Math Curriculum Coordinator
MSH/ MGC	12/19/14	Interview	No	District ESL Math Curriculum Coordinator
KG	1/7/15	Data Meeting; Site Visit	Yes	Principal and two 2nd Grade Teachers
LB	1/9/15	Data Meeting	Yes	Principal, Assistant Principal, and Instructional Coach

*BP=Bullet Point Report

Table 2: ST Math Overview of Training Plan by District and School including Emerging ("Grassroots") Interest in ST Math
August 2014 through january 9, 2015

County	District	School Name	On-site Training	Self-Guided	School Initiated 'Train the Trainer'	Grassroots
Fairfield County	Fairfield ESC	3 non-grant/2 grant schools	✔	✔		
	Lancaster City Schools: Plan C (Onsite ST Math leads)	Cedar Heights ES		✔	✔	
		East ES		✔	✔	
		General Sherman Jr HS		✔	✔	
		Lancaster City School District		✔		
		Lancaster HS			✔	
		Medill ES			✔	
		Sanderson ES		✔	✔	
		South ES			✔	
		Tarhe ES		✔	✔	
		Tallmadge ES			✔	
		Thomas Ewing Jr HS		✔	✔	
		West ES		✔	✔	
	Liberty Union SD: Plan C (Onsite All Teachers)	Liberty Union ES	✔			
	Pickerington Local Schools: Plan C (Onsite Building Admin, Coaches, Tech Teachers)	Diley MS		✔	✔	
		Fairfield ES		✔	✔	
		Harmon MS		✔	✔	
		Heritage ES		✔	✔	
		Pickerington ES		✔	✔	
		Pickerington Local School District		✔		
		Sycamore Creek ES		✔	✔	
		Toll Gate ES		✔	✔	
		Toll Gate MS		✔	✔	
		Tussing ES		✔	✔	
		Violet ES			✔	
	Walnut Twp. Local Schools: Plan A (Self- Guided)	Millersport ES		✔		

Table 2: ST Math Overview of Training Plan by District and School including Emerging ("Grassroots") Interest in ST Math
August 2014 through january 9, 2015

County	District	School Name	On-site Training	Self-Guided	School Initiated 'Train the Trainer'	Grassroots
Franklin County	Columbus City Schools (A-N): Plan C (Onsite ELL Teachers and Aides)	Avalon ES				
		Briggs HS				
		Broadleigh ES	✔			
		Burroughs ES				✔
		Cassady ES	✔			✔
		Columbus Global Academy MS/HS	✔	✔		✔
		Cranbrook ES				
		Devonshire ES				
		Eakin ES	✔			
		East Columbus ES				
		East Linden ES	✔	✔		
		Easthaven ES				
		Fairwood ES				
		Forest Park ES	✔			
		Gables ES	✔			
		Georgian Heights ES				
		Highland ES				
		Hilltonia MS				
		Hubbard Mastery ES	✔			✔
		Innis ES	✔	✔		✔
		Johnson Park MS	✔			✔
		Linden STEM				
		Medina MS	✔			
		Mifflin HS	✔			✔
		Mifflin MS	✔			
		North Linden ES	✔			
		Northland HS	✔			
		Northtowne ES	✔			✔
		Oakmont ES				
		Ridgeview MS				
		Salem ES				✔
		Scottwood ES				
		Siebert ES	✔			✔
		Sullivant ES				
		Valley Forge ES	✔			
		Walnut Ridge HS				
		Wedgewood MS	✔	✔		✔
		West Broad ES				
		West HS				
		Woodcrest ES	✔	✔		✔
		Woodward Park MS				

Table 2: ST Math Overview of Training Plan by District and School including Emerging ("Grassroots") Interest in ST Math
August 2014 through january 9, 2015

County	District	School Name	On-site Training	Self-Guided	School Initiated 'Train the Trainer'	Grassroots
Franklin County	Gahanna-Jefferson Public Schools: Plan C (Onsite all Teachers)	Gahanna MS West	✔	✔		
	Hamilton Local Schools: Self-Guided Courses w/Onsite Follow up	Hamilton ES		✔		✔
		Hamilton IS				
		Hamilton MS				
	Hilliard City Schools (A-H): Plan C (Onsite for Gifted, Spec. Ed., and ELL Teachers)	Alton Darby ES	✔			
		Avery ES	✔			✔
		Beacon ES	✔			✔
		Britton ES	✔	✔		✔
		Brown ES	✔			
		Darby Creek ES	✔			
		Hilliard Crossing ES	✔			✔
		Hilliard Horizon ES	✔	✔		✔
		Hoffman Trails ES	✔			
		J. W. Reason ES	✔			
		Norwich ES	✔			✔
		Ridgewood ES	✔	✔		
		Scioto Darby ES	✔	✔		✔
		Washington ES	✔	✔		
	Worthington City Schools: Plan C (Onsite for Self-Selected Teachers)	Bluffsview ES	✔			
		Brookside ES	✔			✔
		Colonial Hills ES	✔			
		Evening Street ES	✔			✔
		Granby ES	✔	✔		
		Kilbourne MS	✔			
		Liberty ES	✔	✔		✔
		Linworth Alternative HS	✔			
		McCord MS	✔			
		Phoenix MS	✔	✔		
		Slate Hill ES	✔	✔		✔
		Thomas Worthington HS	✔			
		Wilson Hill ES	✔	✔		✔
		Worthington Estate ES	✔			✔
		Worthington Hills ES	✔			
		Worthington Kilbourne HS	✔			
		Worthington Park ES	✔			
		Worthingway MS	✔			

Table 3: Math Matters: Observation of Program Training and Support
August 2014 to January 9, 2015 by District and School

County	District	School Name	Training Pt.1	Training Pt.2	PD/Abbrev Training	Data Mtg. w/Admin	Site Visits (Teacher Support)
Fairfield County	Fairfield ESC	3 non-grant/2 grant	✔				
	Lancaster City Schools: Plan C (On-site Math leads)	Cedar Heights ES	✔		✔	✔	✔
		East ES	✔		✔		✔
		General Sherman Jr HS	✔		✔		
		Lancaster HS	✔		✔		
		Medill ES	✔		✔		
		Sanderson ES	✔		✔		✔
		South ES	✔		✔		✔
		Tarhe ES	✔		✔		✔
		Tallmadge ES	✔		✔		
		Thomas Ewing Jr HS	✔		✔		
		West ES	✔		✔		
	Liberty-Thurston-Union: Plan C [On site All Teachers]	Liberty Union ES	✔	✔			✔
	Pickerington Local Schools: Plan C (On-site Building leads)	Diley MS	✔			✔	✔
		Fairfield ES	✔				
		Harmon MS	✔		✔		
		Heritage ES	✔			✔	✔
		Pickerington ES	✔				
		Sycamore Creek ES	✔				
		Toll Gate ES	✔				
		Toll Gate MS	✔			✔	
		Tussing ES	✔				
		Violet ES	✔			✔	✔
	Walnut Twp. Local Schools: Plan A (Self-Guided)	Millersport ES			✔		

Table 3: Math Matters: Observation of Program Training and Support
August 2014 to January 9, 2015 by District and School

County	District	School Name	Training Pt.1	Training Pt.2	PD/Abbrev Training	Data Mtg. w/Admin	Site Visits (Teacher Support)
Franklin County	Columbus City Schools (A-O): Plan C (On-site ELL Teachers and Aides)	Avalon ES					
		Briggs HS					
		Broadleigh ES	✔				
		Burroughs ES			✔		
		Cassady ES	✔				✔
		Columbus Global Academy MS/HS	✔				✔
		Cranbrook ES					
		Devonshire ES					
		Eakin ES	✔				
		East Columbus ES					
		East Linden ES	✔				
		Easthaven ES					
		Fairwood ES					
		Forest Park ES	✔				
		Gables ES	✔				
		Georgian Heights ES					
		Highland ES					
		Hilltonia MS					
		Hubbard Mastery ES	✔				✔
		Innis ES	✔		✔		
		Johnson Park MS	✔				✔
		Linden STEM					
		Medina MS	✔			✔	
		Mifflin HS	✔				
		Mifflin MS	✔				
		North Linden ES	✔				
		Northland HS	✔				
		Northtowne ES	✔				✔
		Oakmont ES					

Table 3: Math Matters: Observation of Program Training and Support
August 2014 to January 9, 2015 by District and School

County	District	School Name	Training Pt.1	Training Pt.2	PD/Abbrev Training	Data Mtg. w/Admin	Site Visits (Teacher Support)
Franklin County	Columbus City Schools (R-W): Plan C (On-site ELL Teachers and Aides)	Ridgeview MS					
		Salem ES					✔
		Scottwood ES					
		Siebert ES	✔				✔
		Sullivant ES					
		Valley Forge ES	✔				
		Walnut Ridge HS					
		Wedgewood MS	✔			✔	✔
		West Broad ES					
		West HS					
		Woodcrest ES	✔				✔
		Woodward Park MS					
	Gahanna-Jefferson Public Schools: Plan C (On-site all Teachers)	Gahanna MS West	✔	✔		✔	✔
	Hamilton Local Schools: Self-Guided Courses w/On-site Follow-up	Hamilton ES				✔	✔
		Hamilton IS					
		Hamilton MS				✔	✔
	Hilliard City Schools (A-D): Plan C (On-site for Gifted, Spec. Ed. and ELL Teachers)	Alton Darby ES	✔	✔			
		Avery ES	✔	✔			✔
		Beacon ES	✔	✔	✔		✔
		Britton ES	✔	✔			✔
		Brown ES	✔	✔			
		Darby Creek ES	✔	✔			

Table 3: Math Matters: Observation of Program Training and Support
August 2014 to January 9, 2015 by District and School

County	District	School Name	Training Pt.1	Training Pt.2	PD/Abbrev Training	Data Mtg. w/Admin	Site Visits (Teacher Support)
Franklin County	Hilliard City Schools (H-W): Plan C (On-site for Gifted, Spec. Ed. and ELL Teachers)	Hilliard Crossing ES	✔	✔			
		Hilliard Horizon ES	✔	✔			
		Hoffman Trails ES	✔	✔			
		J. W. Reason ES	✔	✔			
		Norwich ES	✔	✔			✔
		Ridgewood ES	✔	✔			
		Scioto Darby ES	✔	✔			✔
		Washington ES	✔	✔			
	Worthington City Schools: Plan C (On-site for Gifted, Spec. Ed. and ELL Teachers)	Bluffsview ES	✔				
		Brookside ES	✔				✔
		Colonial Hills ES	✔				
		Evening Street ES	✔		✔		✔
		Granby ES	✔				
		Kilbourne MS	✔				
		Liberty ES	✔				✔
		Linworth Alternative HS	✔				
		McCord MS	✔				
		Phoenix MS	✔				
		Slate Hill ES	✔				✔
		Thomas Worthington HS	✔				
		Wilson Hill ES	✔				✔
		Worthington Estate ES	✔				✔
		Worthington Hills ES	✔				
		Worthington Kilbourne HS	✔				
		Worthington Park ES	✔				
		Worthingway MS	✔				

Sources: Math Matters October 30, 2015 Quarterly Report; Email correspondence from ST Math Implementation

APPENDIX

Math Matters: Knowledge Capture Field Observation Reports (16)

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 Visit: 1-1-ES-7 [SV: LB]
November 25, 2014

Educational Consultant: Twana Young
Participant: 2010
Location: 1-1-ES-7

Introduction:
This meeting was scheduled through a district coordinator, and there was a miscommunication so the school was not aware that Educational Consultant was going to be visiting. Educational Consultant was able to meet with the principal to discuss ST Math, data reports, and schedule another date for a visit.

School has encountered several issues with scheduling time for ST Math, which has made progress on the program difficult. Internet access is inconsistent, and there is only one computer lab for the building.

SITE VISIT (SUMMARY):
Educational Consultant met with the principal and accessed ST Math. Educational Consultant discussed features of the program and demonstrated how to access data reports, assign homework, and change the order of objectives, and the new fluency feature for ST Math. At the end of the meeting, another visit was scheduled.

Challenges:
- *Only one intervention teacher and one math teacher attended training*
- *Getting started late with the program is seen as a challenge for this year's progress with ST Math*

Student Engagement:
- *ST Math is being used during intervention time with students performing below grade level*
- *Students are shown a daily achievements report at the end of each session*
- *Students like ST Math*

Teacher Engagement:
- *Some teachers are testing both ST Math and Dreambox to see which works best with individual students*
- *Many teachers who tried both ST Math and Dreambox prefer ST Math*

Principal Engagement:
- *Principal hasn't officially logged in*
- *Educational Consultant set up principal with a new password*

Parent Engagement:
- *Principal thinks that the parents will like the companion worksheet for the fluency section*

Working with Data Reports and Data Frames:
- Educational Consultant reviewed school progress to date
- Educational Consultant discussed the weekly goals that need to be reached to achieve 70% completion
  - A significant difference in progress by grade level is reviewed
- Educational Consultant demonstrates how to view data reports and alerts
  - Educational Consultant explains the meaning behind alerts
    - Extra plays
    - Low time on task
    - Level cancelling
  - Teachers can use data reports to monitor progress
- Educational Consultant explains syllabus progress vs. standards mastery
  - Syllabus progress is how far students have gotten in the ST Math curriculum
  - Standards mastery factors in how well students are doing in the curriculum, their number of tries, confidence, and post-test grades

Making Connections:
- Postcards will be sent as schools reach achievement goals
  - Teachers can use the "JiJi" postcards to teach geography
- Educational Consultant explains the new math fluency feature
  - Develops speed and accuracy
  - Includes printable worksheets which can be used for homework or classwork
  - Educational Consultant suggests group rotation10 minute lessons that can be used in two ways
    - Group rotation where the student has 10 minutes with the program before they are kicked out and the next student's name comes on the screen
    - Computer lab once per week
- Educational Consultant demonstrates how to reorganize curriculum and set homework
  - Changing order of homework doesn't change order of the curriculum
  - Recommends using optional objectives for homework
    - Optional objectives don't count for syllabus progress
- Students can play completed games at home
- Educational Consultant recommends strategies for using program in the classroom and connecting material to class curriculum

Technical Issues:
- *Teachers who have mistakenly created multiple classes can't close them*
- *Internet at the school is inconsistent*
- *Problem with students not saving progress*
- *Access has been an issue*
  - o *School has one computer lab and 6 iPads per classroom*
  - o *Teachers are trying to increase to twice per week*
  - o *Some classes haven't been able to use the program for 2-3 weeks*

ST Math Site Visit: 1-3-ES-15 [SV: MGC]
November 12, 2014

Educational Consultant: Anthony Reynoso [Brought in from Louisiana to help meet school support requests]
Participants: Instructional Coach, 1st and 3rd grade teachers
Location: 1-3-ES-15

Introduction: The site visit began with the Instructional Coach and a 3rd grade teacher in the Teacher Resource Room. The Educational Consultant addressed specific questions about rostering and password training, and directed the Instructional Coach to online resources. This meeting was followed by several classroom visits where the Educational Coach assisted teachers in rostering students and getting them started on password training.

SITE VISIT (SUMMARY):
Throughout the classroom visits, the Educational Consultant models facilitating ST Math learning and answering specific concerns brought up by teachers. The Instructional Coach announced the rules for using iPads in the classrooms. The Educational Consultant introduced students to JiJi and gave them an overview of password training, logging in and logging off procedures. ST Math is presented as a video game.

Successes:
- *This school restructured their schedule to make time to ST Math*
  - *The block for math is twice as long as normal blocks*
  - *Because of limited technology, ST Math is done in rotation with one-on-one instruction, and math lessons*
  - *Two teachers co-teach math*
- *The students have been hearing about ST Math and are very excited about it*
- *All of the teachers received ST Math manuals*
- *School has 8 iPads per classroom*
  - *School will be receiving additional iPads through a mini-grant*

Challenges:
- *Instructional coach having trouble hearing back from regional Educational Consultant*

Student Engagement:
- *After students embark on ST Math password training, the teacher states that the students are the quietest they've been all week*
- *Students asked about playing ST Math at home*
- *One student is worried about learning password*

- *Students seem to enjoy the program*
  - *One student asks if they can buy the app at home*
  - *Teacher is planning to send home letters with instructions*

Teacher Engagement:
- *Teachers asked how long ST Math will be available*

Technical Concerns:
- *Teachers are having trouble linking students to the classes*
- *There are teachers listed that aren't in the building*
- *One teacher is not in the system*
- *There have been issues with the district rostering*
  - *One teacher "looped" (stayed with the same group of students over two consecutive school years) and was rostered with the wrong group of students*

Teacher Concerns:
- *Many teachers have gaps in knowledge*
- *Special Education students cannot be connected to more than one class*
  - Special education teachers should be given school-wide access so they have access to their students

ST Math Site Visit: 1-3-ES-15 [SV: MGC]
November 12, 2014

Educational Consultant: Anthony Reynoso [Brought in from Louisiana to help meet school support requests]
Participants: Instructional Coach, 1st and 3rd grade teachers
Location: 1-3-ES-15

Introduction: The site visit began with the Instructional Coach and a 3rd grade teacher in the Teacher Resource Room. The Educational Consultant addressed specific questions about rostering and password training, and directed the Instructional Coach to online resources. This meeting was followed by several classroom visits where the Educational Coach assisted teachers in rostering students and getting them started on password training.

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Throughout the classroom visits, the Educational Consultant models facilitating ST Math learning and answering specific concerns brought up by teachers. The Instructional Coach announced the rules for using iPads in the classrooms. The Educational Consultant introduced students to JiJi and gave them an overview of password training, logging in and logging off procedures. ST Math is presented as a video game.

Successes:
- *This school restructured their schedule to make time to ST Math*
  - *The block for math is twice as long as normal blocks*
  - *Because of limited technology, ST Math is done in rotation with one-on-one instruction, and math lessons*
  - *Two teachers co-teach math*
- *The students have been hearing about ST Math and are very excited about it*
- *All of the teachers received ST Math manuals*
- *School has 8 iPads per classroom*
  - *School will be receiving additional iPads through a mini-grant*

Challenges:
- *Instructional coach having trouble hearing back from regional Educational Consultant*

Student Engagement:
- *After students embark on ST Math password training, the teacher states that the students are the quietest they've been all week*
- *Students asked about playing ST Math at home*
- *One student is worried about learning password*

- *Students seem to enjoy the program*
  - *One student asks if they can buy the app at home*
  - *Teacher is planning to send home letters with instructions*

Teacher Engagement:
- *Teachers asked how long ST Math will be available*

Technical Concerns:
- *Teachers are having trouble linking students to the classes*
- *There are teachers listed that aren't in the building*
- *One teacher is not in the system*
- *There have been issues with the district rostering*
  - *One teacher "looped" (stayed with the same group of students over two consecutive school years) and was rostered with the wrong group of students*

Teacher Concerns:
- *Many teachers have gaps in knowledge*
- *Special Education students cannot be connected to more than one class*
  - Special education teachers should be given school-wide access so they have access to their students

ST Math Site Visit: 1-3-ES-16 [SV: LB]
January 9, 2015

Educational Consultant: Twana Young
Participants: 2008; 2009; 3002
Location: 1-3-ES-16

Introduction:
The Principal, Assistant Principal, and Instructional Coach attended the meeting with the Educational Consultant. This school district employed a "train the trainer" method to implement the program. This has caused a number of misunderstandings about ST Math among the teachers and administration, including how long the school will have access to the program under the grant and how to facilitate learning when using ST Math.

The Principal was not enrolled in the system, and the Assistant Principal did not have a login. The Educational Consultant contacted ST Math technical support to resolve both issues. The Instructional Coach was able to login to the system without problem. She has been pivotal in educating teachers about ST Math, overseeing its implementation, and fielding teacher questions.

Neither the Principal or Assistant Principal have been receiving data reports e-mailed by the Educational Consultant. The Educational Consultant is attempting to resolve this issue.

SITE VISIT (SUMMARY):
The meeting began with a review of syllabus progress within the school and a discussion of how the goals for the year have been adjusted to compensate for the late start. The Educational Consultant reviewed data reports and addressed specific questions raised by the participants. About halfway through the meeting, both the Principal and Assistant Principal left. The Instructional Coach used the time to ask specific questions about ST Math.

Challenges:
- *None of the participants have been receiving data report e-mails from Educational Consultant*
- *Some grades are making more syllabus progress than others*
- *Decreasing quiz score and low post quiz score are concerns*
- *Failing to log out is also a concern*
- *One student has low syllabus progress because she hasn't been logging out*
- *Some teachers are having trouble facilitating*
    - o *Some teachers didn't know that they needed to facilitate*

Student Engagement:
- Concern that using ST Math in 20 minute centers is not providing enough time for adequate syllabus progress
- Instructional coach supplied journals to each student
  - Classes may not be using journals effectively

Teacher Engagement:
- Instructional coach is planning to build a small group of teachers to help increase teacher buy-in through grassroots methods
- Instructional Coach printed worksheets for teachers
- Instructional Coach would like to set up training for teachers
  - Some teachers don't realize that they need to facilitate

Building Leader Engagement:
- Principal is not enrolled in the system
- Assistant Principal needed to have her log-in reset
- Instructional coach is planning to talk to other schools in the district to discuss their ST Math implementation

Teacher Concerns:
- School has no school-wide plan for ST Math time
  - Teachers decide whether to do full class or stations
- Misunderstanding about how long school has ST Math
  - Educational Consultant reinforces that they have it for 5 years
- Starting a new reading program next year so PD time has been consumed by training
- Teachers are concerned about sacrificing instructional time for ST Math
- Instructional Coach asks whether homework counts toward syllabus progress

Resources:
- Available technology
  - Each class has at least 5 iPads
  - Carts of Chrome books or iPad minis can be checked out
  - The school has one computer lab

ST Math Site Visit: 1-4-ES-21 [SV: MGC]
December 3, 2014

Educational Consultant: Twana Young
Participants: 2002; 19 classroom teachers
Location: 1-4-ES-21

Introduction:
This training session too place in the school's computer lab after the school day ended. All of the teachers in the school completed self-guided courses, even non-math teachers. The principal wanted everyone aware of the program and involved in JiJi culture. The first part of the meeting revolved around accessing ST Math report and facilitation. The second part of the meeting was about performance-based assessments.

The Educational Consultant introduces herself and mentions that she grew up in Millersport and attended the school as a child. She has friends from those days whose children are now students. Educational Consultant admired the school's JiJi Culture, and has taken photos of the JiJi bulletin board to Tweet. Educational Consultant brought everyone a training manual, poster/stickers, and a facilitation card. Some teachers at the training are not registered on ST Math because they don't teach math.

SITE VISIT (SUMMARY):
This meeting was an abbreviated Part 2 training session. Educational Consultant reviews data frames and data reports in **Monitor** and **Connect**. Participants review the data frames, learn how to interpret data reports, play several sample games, learn strategies for implementation, and address specific concerns that have arisen since the teachers started using ST Math in their classrooms. Teachers brainstorm strategies to address some of the alerts on the reports. There is also discussion of reordering curriculum and using math Fluency. The session ends with Educational Consultant addressing specific teacher questions.

Successes:
- *All teachers have completed self-guided courses – even non-math*
- *Principal wanted everyone involved in JiJi culture*
  - *School has a JiJi map bulletin board*
- *Students mostly like the program*
- *One teacher asks stuck students to show her what they are doing and as they explain it they figure out how to do solve the puzzle*

Challenges:
- *Some students are having trouble learning passwords*

- *Some students have two ST Math accounts*
- *Students are not paying attention when ST Math shows them errors*
- *Some students are getting stuck and frustrated*

Technical Concerns:
- *Providing access to ST Math at for students at home*
- *Students with low progress may not be exiting properly*
- *One student can't learn password*
    - *Educational Consultant will e-mail password to teacher*

Teacher and Principal Concerns:
- *Teachers cannot reorder curriculum set up for a different teacher*
- *Some students are not engaging with ST Math*
- *Reordering curriculum for students at different levels*

Creating a JiJi Culture:
- *School has a JiJi map bulletin board*

ST Math Site Visit: 2-1-ES-33 [SV: MGC]
December 1, 2014

Educational Consultant: Twana Young
Participants: 21 teachers, CCIT
Location: 2-1-ES-33

Introduction:
This session took place in the school's annex in a music classroom. The room is equipped with a portable white board and 23 laptops set up at two rows of tables. After the CCIT came to district training, she spoke with the building leader and other staff members about the potential of ST Math. CCIT had Educational Consultant come at earlier date to do brief Part 1 training for staff. This session is condensed Part 1 training [40 minutes] again.

SITE VISIT (SUMMARY):
Educational Consultant brings up data on the school and reviews progress of teachers who are using ST Math. Most teachers have not logged into ST Math yet. Educational Consultant introduces self and ST Math. Teachers learn basic information about ST Math; learn about integrating ST Math into the curriculum, using the program in the classroom, and some information about creating classes and rostering students in this condensed Part 1 training session.

Participant Concerns:
- *Difficult to balance using available programs*
  - *Competing initiatives*

Participant Engagement:
- *Teacher is interested in seeing students figure out the games*
- *Teacher was very enthusiastic when she solved one of the games*

Technical Concerns:
- *Some students lack access because they were not rostered*
  - Educational Consultant demonstration of how to add students through CCS site/school name
  - Teachers cannot add students until they create a class

ST Math Training part 1: 2-1-ES-ALL [SV: MGC]
November 13, 2104

Educational Consultant: Twana Young
Participants: 11 elementary school staff, including 4 ESL aides and 7 classroom teachers
District Level Administrator: 3007
Location: 2-1-ES-ALL

Introduction:
Training session took place in a classroom with rows of tables facing a whiteboard. Several laptops were set up at each table, with teacher training manuals, progress charts, JiJi sticker sheets, and ST Math game sheet materials. The ESL Math Curriculum Support for CCS introduced the session, explained the grant, and the benefits of ST Math. Those present were recognized as not necessarily comfortable teaching math, and that the visual aspects of ST Math are a powerful teaching tool. Attendees are made aware that CCS piloted ST Math last year, and will have access to the program for five years through the grant.

Trainer introduces herself as someone who worked at CCS for 17 years as a teacher and curriculum coordinator for math and science. Trainer shares her experience at the state and national level with Common Core and PARCC on assessment committees. Trainer reassures teachers that educators create the PARCC assessments.

TRAINING (SUMMARY):
Trainer uses a PowerPoint on the whiteboard as she reviews the agenda for the session, with her goals for the day: **Learn**, **Teach**, **Monitor**, and **Connect**. She explains that she will be coming to look at their data for part 2 Training and do more work with them in **Monitor** and **Connect**. Participants learn about ST Math, play several sample games, and learn strategies for implementation, making connections to common core and curriculum. Several videos are shown throughout the session, including videos to show students about ST Math and password training. At key points the trainer conducts quizzes with the teachers. At the end of the session, teachers take an online survey.

Learn
- *Participants share math goals for their students*
  - *Helping students to understand which operation to use when there is a problem*
  - *Achieving Ohio ELP standards*
    - *Including words for measurements of time and weight*
    - *Word problem words*
  - *Learning about math facts, and the use of math in everyday life around the world*

- o *Developing communication skills*
    - ▪ *Students gaining skills with words problems*
    - ▪ *Students being able to explain how they arrived at their answer*
- Discussion of the standard learning process in schools
    - o Teachers lecture and receive feedback from students in the form of verbal, assessments, observations, group work, work samples, and student questions
- Participants try games
    - o Emphasis on experimentation and critical thinking skills to solve the puzzles
    - o Building spatial-temporal reasoning
    - o Using the game mats
    - o Answer questions about the games with a question or suggest "try it and see"
    - o The games progress from visual to symbolic
- As classes reach milestones, postcards from "JiJi's" travels around the world will be sent to the school
    - o Can be used to initiate discussion with students from outside of the US
    - o Tie into discussion of geography
    - o Create a "JiJi" culture
- ST Math encourages language development with a language-free approach
- Builds conceptual understanding before getting to standard math notation
- ST Math is aligned with common core
- Demonstration of the structure of ST Math
    - o Students can play completed games at home
- To reach the levels of improvement in scores described by Dr. Peterson in TEDX video clip shared with teachers [2x-3x growth]
    - o Trainer recommends amount of time per session and frequency of session to get optimal results
    - o Work through 75% of the curriculum
    - o Recommends 2-3% syllabus progress each week

Teach

- Participants go through password training exercise
    - o Teachers do not receive the passwords
    - o Program has system for retraining
- Participants learn how to roster and link their students in class groups
    - o ESL students have been preloaded
- Students cannot access the site at home without their password
- Implementation recommendations
    - o Teachers are encouraged to send home a letter to inform parents about the program

Monitor
- Participants learn the meanings of the different status frames
- Participants learn about student progress reports
- Trainer points out training sessions and resources available on the website
  - Encourages teachers to share this resource with teachers who want to use ST Math but haven't undergone training

Participant Concerns:
- *Participant feels overwhelmed by the prospect of working with others in their building*
- *Participants are concerned about the buy-in of other teachers*
- *Rostering*
  - *Teachers with multiple grade levels will need to create different classes for each grade level*
  - *Some of the students who have done the program last year are pre-loaded and some are not*
- *Concern about having enough space for a laptop cart in crowded classroom*
- *Technology*
  - *Teacher wants smart board application where students can touch the screen*
  - *One teacher prohibits use of headphones in her class to deter of-task behavior and asks if ST Math can be muted*
  - *One teacher doesn't have a smart board*
- *One teacher has a 5th grade student who has never been to school before, asks about starting student at kindergarten level*

Teacher Engagement:
- *Teachers are very excited about the program*
  - *One teacher's children are using ST Math at their school and love it*
  - *Another teacher is excited that it can be done with limited English language ability*
  - *One teacher received a little training and used it briefly last year*
  - *One teacher volunteers to be a "cheerleader" to encourage other teachers to use ST Math*

ST Math Site Visit: 2-3-ES-64 **[SV: MGC]**
November 24, 2014

Educational Consultant: Twana Young
Participants: 3005; 3006
Location: 2-3-ES-64

Introduction:
The primary meeting scheduled for the day was with the ST Math lead teacher. This was followed by a brief visit with the Curriculum Coordinator. The Educational Consultant and lead teacher discussed the mechanics of using ST Math and the new Fluency feature, as well as some of the challenges the school is facing with limited technology and an enormous student body. The visit with the Curriculum Coordinator was more general discussion about ST Math and teacher buy-in (and lack thereof) at the four Hamilton school buildings. The Curriculum Coordinator asked the Educational Consultant to return to the school in February to do Professional Development with the teachers.

SITE VISIT (SUMMARY):
Throughout the meeting the teacher discussed challenges and successes at the elementary school with implementing ST Math. The Educational Consultant and teacher reviewed data reports and discussed concerns about specific students. The Educational Consultant reviewed information about accessing data reports, reorganizing curriculum, and assigning homework.

Challenges:
- *Scheduling ST Math time has been an issue with students who are pulled out for intervention*
  - *Intervention teacher has limited computer access*
- *Grades 3-6 at the Intermediate School haven't started ST Math because of technical issues and lack of teacher buy-in*
  - *Curriculum Coordinator is trying to encourage one of the teachers to pilot the program to help get others onboard*
- *Middle School is using the program with intervention students*
  - *Relatively low buy-in in the Middle School*

Student Engagement:
- *Students at the elementary school love the program*
  - *One student at the school found Fluency*
- *Some students are working on ST Math during indoor recess*
- *The composition of the classes will change in the second half of the year*
  - *Grouping students by ability*

Teacher Engagement:
- *Curriculum Coordinator believes buy-in will increase after PARCC assessments*
  - o *One teacher is very excited about Fluency*
- *One teacher added a few optional objectives to the class curriculum*
- *Classes have almost reached their goal*
- *Classes are devoting 60-75 minutes per week*

Technical Concerns:
- *Kindergarten has not started ST Math because of tech issues*
  - o *Kindergarten computers are outdated and unable to support ST Math*

ST Math Site Visit: 2-4-ES-74 [SV: LB]
December 15, 2014

Educational Consultant: Twana Young
Participants: 3003; 21 teachers in morning session; 5 classroom visits
Location: 2-4-ES-74

Introduction:
The session began with a brief training session in the Media Center. At this school, Special Education and gifted students are given priority access to ST Math. Only seven teachers went to the training, so information about ST Math has been mostly word of mouth. This mini-training session was used to fill in some gaps in teacher knowledge about ST Math and answer questions. After the meeting, the Educational Consultant met with the Math Coach, and then visited a kindergarten class, a two second grade classes, a fourth grade class, and a third grade class before doing a final debrief with the Math Coach at the end of the visit.

The Math Coach planned to conduct a second meeting for teachers the following Wednesday without the Educational Consultant.

SITE VISIT (SUMMARY):
Visit began with a brief meeting with teachers in the Media Center. The Educational Consultant began the session by reviewing syllabus progress, discussing goals, reviewing data reports, and pointing out resources on the ST Math Teacher Resource page. After the meeting, the Educational Consultant and the Math Coach visited a series of classrooms. In the classrooms, the Educational Consultant modeled facilitation for teachers, identified students who were struggling, and demonstrated teacher mode. At the end of each classroom visit, the Math Coach instructed students on how to log out properly.

Challenges:
- *Only seven teachers went to training*
    - *Knowledge about ST Math has mostly been word of mouth*
- *Limited opportunities for ST Math focused staff meetings*
- *Some of the students are having trouble with passwords*
    - *Gradual increase of characters in password has been a challenge for kindergarten students*
        - *Teacher encourages students to say the name of the picture when they click the characters*
    - *A few students accidentally created a duplicate account when they forgot password*
- *Some teachers do not have manuals*

- *In one class, students were not logging out completely so their data wasn't saved*
    - o *During classroom visits, Math Coach reinforced log out procedure at the end of the sessions*
    - o If students don't log out properly, cached data can be retrieved by student logging in immediately and logging out properly
- *Some students are hesitant to think on their own*
- *Some teachers are having difficulty shifting from teaching to facilitation*
- *Students are finding and entering Fluency without teacher knowledge*
- *Discussion of strategies for struggling student with extremely limited mobility*
    - o ST Math is beneficial for student because he can work independently
    - o Ask yes and no questions
    - o Use playback mode
        - ▪ Playback does not work on iPads
    - o Re-order curriculum and add optional objectives to help build skills
    - o Test drive as teacher in lower grade

Teacher Engagement:
- *Teachers are using ST Math in various ways*
    - o *Some teachers doing full class ST Math*
    - o *Some split class and do small group instruction with some students while other do ST Math*
    - o *Some do stations a few times per week with a full class session once per week*
- *Some teachers are unaware of data reports*
    - o *Some teachers do not know how to read data frames*

Student Engagement:
- *Some teachers are very effective at student encouragement*
- *Students are very enthusiastic about ST Math – especially when they overcome a hurtle*
    - o *Gives facilitation questions to some teachers*
- *Some students take time to review quiz results*

Technical Concerns:
- *Students accidentally deleted the ST Math app from iPads*
    - o *Teachers can re-download the app, must re-enter school code*
- *Some issues with technology not working*
- *Some students have school access code at home*
    - o *Students are completing material too quickly*

Teacher Concerns:
- *The teachers would like to see data from similar schools*

Creating a JiJi Culture:
- JiJi Believer Contest is announced
  - Students create music videos to win a visit from JiJi

ST Math Training part 2: 2-4-ES-ALL [SV: MGC]
October 22, 2014, AM Session

Educational Consultant: Twana Young
Participants: Elementary, special education, ELL, gifted, and Intervention teachers (19 participants)
District Level Administrator: 3004
Location: 2-4-ES-ALL

Introduction:
Training session took place in computer lab, with rows of participants facing the white board. At each place were discussion prompts ("Table Talk Prompts") and guide sheets to help participants develop action plans for utilizing student reports. The Instructional Coach welcomed participants and asked everyone to sign in. At the close of the training session, the Instructional Coach added:

- More devices will be coming
- Reminder to sign in and indicate whether substitute was needed
- Special education teachers and intervention teachers need building wide access to retrieve student data
- Teachers were dissuaded from reordering curriculum on ST Math more than once or twice

Educational Consultant introduces herself and lets attendees know they will be working with her and ST Math for the next 5 years. Educational Consultant provides her professional background. She asks the participants to turn their attention to the "Table Talk" discussion prompts on each of the desks and asks the participants to start discussing the prompts. These discussion prompts revolve around the successes and challenges of using ST Math.

TRAINING [SUMMARY]:
Educational Consultant uses a PowerPoint on the whiteboard as she reviews part 1 and the agenda for this session of part 2 training. In part 1, the training focused on **Learn** and **Teach**. Part 2 focuses on **Monitor** and **Connect**. Participants review the data frames, learn how to interpret data reports, play several sample games, learn strategies for implementation, and address specific concerns that have arisen since the teachers started using ST Math in their classrooms. Two videos are shown throughout the session, including one demonstrating how to guide students through the games while using facilitating strategies such as answering a question with a question. The other video demonstrates using ST Math in the classroom with game mats and manipulatives. At the end of the session, training participants take an online survey.

Educational Consultant posted the highest percentages of curriculum completion among the schools present at the training session on the whiteboard and announced teachers who have made significant progress through ST Math curriculum. Educational Consultant asked teachers to write down Successes and Challenges with ST Math on a worksheet at each station, and a teacher from each row shared an ST Math success and an ST Math challenge.

Successes:
- *An intervention teacher has helped other teachers get started*
- *The teachers find ST Math user-friendly with helpful videos for kids*
    - *Some teachers felt anxiety about students learning passwords, but these anxieties were reduced by viewing the videos*
- *Students are excited about using ST Math*
    - *One student who hates math has had 19 home sessions*
    - *Numerous teachers report that students are using ST Math at home*
- *It is easy to check student progress every day*
- *Students are developing a different approach to problem solving, a deeper understanding of math, and developing different strategies*
- *One teacher reports that integration of ST Math has gone smoothly*
- *One teacher has been using manipulatives and game mats to help students work through the puzzles*

Challenges
- *Special education teachers can't make their own groups*
- *Teacher unsure how to assign homework*
- *Some students could not access the site at home*
- *Teachers can't ask facilitating questions of their ELL students*
- *Some students have very low post-quiz scores*
- *Some students are frustrated when they can't solve a puzzle*
- *One teacher is having difficulty deciding which student to focus on*
- *Difficulty accessing ST Math on iPads*
- *Some students are performing below grade level and fail level quizzes*

Monitor
- Teachers review the meanings of the different status frames
    - Attention is drawn to indications of password sharing [data corruption]
    - Teachers brainstorm appropriate responses to the status frames.
        - High number of tries was a particular concern
            - Use manipulatives or graph paper
            - Ask facilitating questions
                - Use a translating device to create questions for ELL students
            - Provide guiding questions taped to the computer monitor

- Educational Consultant demonstrates how to play back previous attempts for the students
    - Extra plays
    - Level cancelling
- Teachers learn about student progress reports
    - Educational Consultant suggests reading reports before ST Math time
- Teachers role play strategies to enhance critical thinking and assist student experiencing difficulty
    - Using playback to encourage critical thinking
    - Using facilitating questions
    - Students don't have to be in trouble to be asked facilitating questions

Connect
- Educational Consultant recommends that teachers only assign a few modules for homework at a time to ensure that teachers aren't interfering excessively in the learning
    - Teachers must create separate groups in order to differentiate homework
- Teachers may need to bridge material for students with low post-quiz results
    - Bridge learning with journaling
    - Students discuss strategies in class
- When lab time isn't available, teachers can still bring ST Math into the classroom
- Teachers should experience and evaluate the puzzles before bringing a puzzle into the classroom
    - Only use 1-3 puzzles per classroom session
    - Give students manipulatives
    - Students can work through the puzzles individually, in small groups, or as a full group
        - Individual students can be called upon to walk through their strategy
        - Discussions of alternate solutions
- Teacher resource site with webinars, chat support, printable materials
- Reordering the curriculum
    - Teachers are advised not to reorder the curriculum more than one time
        - May disrupt the flow of the ST Math curriculum
        - Students work at different rates

Participant Concerns:
- *Rostering*
    - *Adding student to the list*
    - *How can students be reassigned to different teachers*
    - *Special education and intervention teachers can't build their own roster*

- ▪ Have to access the students' primary teachers classes to retrieve student data
- *Access to ST Math*
  - ○ *Demand for the computer labs limits time for ST Math*
  - ○ *One school is having difficulty using ST Math on iPads*
- *Grade level material is beyond some student's ability*
  - ○ Educational Consultant offered some suggestions
    - ▪ Start students at grade level and see whether students are missing requisite skills
    - ▪ Build those requisite skills using teacher mode with the student
      - • Progress is not saved in teacher mode
    - ▪ Test drive a lower grade with the student and monitor progress
- *Teachers can't ask facilitating questions of their ELL students*
  - ○ Educational Consultant recommends asking the student to draw their strategy using game mats, pencil and paper, and manipulatives
- *Parent concerns about homework*
  - ○ *Parent did not understand that students could only play completed modules at home and was concerned that child continually played the same games*
  - ○ Educational Consultant directs teachers to homework letters on the website
    - ▪ Provide parent friendly facilitating questions and explain to parents how to help their kids on ST Math

ST Math Training part 2: 2-4-ES-ALL [SV: MGC]
October 22, 2014, PM Session

Educational Consultant: Twana Young
Participants: Elementary, special education, ELL, gifted, and intervention teachers (14 participants)
District Level Administrator: 1002 [left at shortly after making opening comments]
Location: 2-4-ES-ALL

Introduction:
Training session took place in computer lab, with rows of participants facing the white board. At each place were discussion prompts ("Table Talk Prompts") and guide sheets to help participants develop action plans for utilizing student reports. The Director of Elementary Curriculum welcomed participants and asked everyone to sign in. Remarks by Director of Elementary Curriculum included:
- Recognition of the strengths of ST Math
- Teachers are the decision makers in the classroom
- Suggestion to ask friends about how they have utilized ST Math
  - Learn from one another
- In response to teachers questions
  - Rostering will be done by the district every night
    - Can be a problem if students are moved from one class to another and back again
    - If teachers change the grade level of students, the student is moved back
  - Teachers have building-wide access
- Reminder to sign in and indicate whether substitute was needed

Educational Consultant introduces herself and lets attendees know they will be working with her and ST Math for the next 5 years. Educational Consultant provides her professional background. She asks the participants to turn their attention to the "Table Talk" discussion prompts on each of the desks and asks the participants to start discussing the prompts. These discussion prompts revolve around the successes and challenges of using ST Math.

TRAINING [SUMMARY]:
Educational Consultant uses a PowerPoint on the whiteboard as she reviews part 1 of the session and the agenda for this session. In part 1, the training focused on **Learn** and **Teach.** Part 2 focuses on **Monitor** and **Connect.** Participants review the data frames, learn how to interpret data reports, play several sample games, learn strategies for implementation, and address specific concerns that have arisen since the teachers started using ST Math in their classrooms. Two videos are shown throughout the

session, including one demonstrating how to guide students through the games while using facilitating strategies such as answering a question with a question. The other video showed how using ST Math in the classroom with game mats and manipulatives. At the end of the session, training participants take an online survey.

Educational Consultant posted the highest percentages of curriculum completion among the schools present at the training session on the whiteboard and announced teachers who have made significant progress through ST Math curriculum. Educational Consultant asked teachers to write down Successes and Challenges with ST Math on a worksheet at each station, and a teacher from each row shared an ST Math success and an ST Math challenge.

Successes:
- *Students get excited about JiJi Time and are engaged*
- *Large number of students using the program*
- *Students are working independently*
- *Both parents and students like ST Math homework*
    - *Students ask fro additional ST Math homework*

Challenges
- *Animation is too fast for students with difficulty processing information*
- *Some teachers don't know what to do in teacher mode*
- *One teacher didn't know how to assign homework*
- *Pre-test scores are higher than post-test*
- *One teacher doesn't know how to help students*
- *Teachers have students functioning below grade level*
    - *Having difficulty matching student ability with a grade level*
    - *Nightly re-rostering moves student back to official grade level*
- *A number of teachers are having trouble fitting it into the class schedule and scheduling computer time*

Monitor
- Educational Consultant explains the difference between syllabus progress and mastery
- Teachers review the meanings of the different status frames
    - Attention is drawn to indications of password sharing [data corruption]
    - Teachers brainstorm appropriate responses to the status frames.
        - High number of tries was a particular concern
            - Use teacher mode to allow students to play a lower level to gain foundational skills
            - Educational Consultant demonstrates how to play back previous attempts for the students
- Teachers learn about student progress reports

- o Educational Consultant suggests reading reports before ST Math time
- o If using iPads, students must log out completely or it will skew minutes played
- o Participants are given suggestions who to work with first
  - ▪ Recommendation to begin with those needing least help
- Teachers role play strategies to enhance critical thinking and assist student experiencing difficulty
  - o Using playback to encourage critical thinking
  - o Asking facilitating questions
  - o Provide guiding questions taped to the computer monitor
  - o Play previous levels to build a strategy
  - o Students don't have to be in trouble to be asked facilitating questions

Connect
- Teachers creating competitions to see who beats the most games in a session
- Teachers should experience and evaluate the puzzles before bringing a puzzle into the classroom
  - o Only use 1-3 puzzles per classroom session
  - o Give students manipulatives
  - o Students can work through the puzzles individually, in small groups, or as a full group
    - ▪ Individual students can be called upon to walk through their strategy
    - ▪ Discussions of alternate solutions
- Reordering the curriculum
  - o Teachers are advised not to reorder the curriculum too often
    - ▪ May disrupt the flow of the ST Math curriculum
    - ▪ Any changes made to the curriculum order are made for all students
    - ▪ Teachers can change the order of the homework without changing order of the curriculum
- Assigning ST Math as homework
  - o Assign optional objectives to avoid parents helping too much
  - o Assigned homework is assigned to the whole group
    - ▪ Create groups to individualize homework
- Teacher resource site with webinars, chat support, printable materials

Participant Concerns:
- *Rostering*
  - o *Reassigning students to different teachers*
- *Grade level material is beyond some student's ability*
  - o Educational Consultant recommendations
    - ▪ Start students at grade level and see whether students are missing requisite skills

- Build those requisite skills using teacher mode with the student – progress is not saved in teacher mode
- Test drive a lower grade with the student and monitor progress
- If students see that they are working on a lower grade, it can lower their math confidence
- *Parent concerns about homework*
  - Teachers can share reports with parents interested in monitoring student progress
  - Inform parents that students can only play completed modules and specific homework at home
  - Parents should be dissuaded from "helping" in the wrong way
  - Provide parent friendly facilitating questions and explain to parents how to help their kids on ST Math
- *Working with low performing students*
  - *Some students are performing well below grade level*
  - Creating a strategy to help get students up to grade level
    - Give student access to lower grade puzzles to build fundamental skills without moving them to a lower grade

ST Math Training part 2: 2-4-ES-ALL [SV: MSH]
October 23, 2014, AM Session

Educational Consultant: Twana Young
Participants: Elementary, special education, ELL, gifted, and intervention teachers (20 participants)
District Level Administrator: 3004
Location: 2-4-ES-ALL

Introduction:
Training session took place in computer lab, with rows of participants facing the white board. At each place were discussion prompts ("Table Talk Prompts") and guide sheets to help participants develop action plans for utilizing student reports. The Instructional Coach welcomed participants and asked everyone to sign in. At the close of the training session, the Instructional Coach added:

- Recommendations for sharing ST Math information with interested teachers in your school
    - Contact Educational Consultant and arrange for her to come to the school for training
- Let her know if you need anything or have any questions

Educational Consultant introduces herself and lets attendees know they will be working with her and ST Math for the next 5 years. Educational Consultant provides her professional background. She asks the participants to turn their attention to the "Table Talk" discussion prompts on each of the desks and asks the participants to start discussing the prompts. These discussion prompts revolve around the successes and challenges of using ST Math.

TRAINING (SUMMARY):
Educational Consultant uses a PowerPoint on the whiteboard as she reviews part 1 of the session and the agenda for this session. In part 1, the training focused on **Learn** and **Teach.** Part 2 focuses on **Monitor** and **Connect.** Participants review the data frames, learn how to interpret data reports, play several sample games, learn strategies for implementation, and address specific concerns that have arisen since the teachers started using ST Math in their classrooms. Two videos are shown throughout the session, including one demonstrating how to guide students through the games while using facilitating strategies such as answering a question with a question. The other video showed how using ST Math in the classroom with game mats and manipulatives. At the end of the session, training participants take an online survey.

Educational Consultant posted the highest percentages of curriculum completion among the schools present at the training session on the whiteboard and announced

teachers who have made significant progress through ST Math curriculum. Educational Consultant asked teachers to write down Successes and Challenges with ST Math on a worksheet at each station, and a teacher from each row shared an ST Math success and an ST Math challenge.

Successes:
- *Students are engaged*
- *Staff is excited to see the progress made to date*
- *Students are excited about using ST Math*
  - *Students are motivated to get other work done so they can have additional ST Math time*
- *Teachers are excited about ST Math*
  - *Teachers find ST Math user-friendly*
  - *5th graders peer tutoring for 2nd grade are making connections with the program*
  - *Gifted specialists are making use of the program and spreading the word about it through their buildings*
  - *Teachers who aren't using ST Math want to use it*
  - *Students with learning disabilities are able to learn their passwords*

Challenges:
- *Spec. Ed, ELL, and Gifted teachers cannot share students with their primary teacher*
- *Teacher reported access to technology has been a barrier*
  - *Limited availability of carts and iPads*
  - *When students log-in from different schools, students are shown a message that they are not in the system*
  - *The iPads are picking up other schools*
    - *ST Math won't save the data when it is logging in under a different school name*
    - *When the program doesn't log-in through the school, the students can only play completed games and can't move on*
    - Educational Consultant recommendations
      - Students should use the same computer every time when the Wi-Fi is spotty
      - Encourage students to stay on the today's accomplishment screen and "X out" rather than hitting the "home screen"
- *Gifted students are frustrated because it is too easy*
  - Educational Consultant suggestions
    - Encourage them to go through it
    - Use journaling to get the students to write word problems based on the games

- Go through teacher mode to let them try something more difficult
- Kids need to be at grade level to ensure that they get the foundational concepts
- *It has been difficult to motivate some teachers to use it*
- *Students who play video games have challenges learning to play*
  - *Not paying attention to feedback*

Monitor
- Participants review the meanings of the different status frames
  - Attention is drawn to indications of password sharing [data corruption]
  - Participants brainstorm appropriate responses to the status frames.
    - High number of tries was a particular concern
      - Demonstration of teacher mode
      - Educational Consultant demonstrates how to play back previous attempts for the students
      - Use the tutorial function when available
- Participants learn about student progress reports
  - Participants are given suggestions who to work with first
    - Recommendation to begin with those needing least help
  - Toolbar is reviewed
- Participants brainstorm strategies to enhance critical thinking and assist student experiencing difficulty
  - It can be useful to watch what students are doing before intervening
  - Having students help each other can also be helpful
    - Pro: working together, sharing ideas
    - Con: struggling student may not build understanding
  - Encourage students to think about their strategy before proceeding
    - Play previous levels to build a strategy
  - Asking facilitating questions
  - Using manipulatives
- Send a letter to parents to let them know about the program and how to use it at home

Connect
- Educational Consultant recommends using journals with students to assess their progress in the program
  - Journal can include math skills vocabulary, solutions, homework to solve, favorite game, and strategies for when they can't solve a problem
- Teachers may need to bridge material for students with low post-quiz results
- Teachers should experience and evaluate the puzzles before bringing a puzzle into the classroom

- - Give students manipulatives, such as number blocks, drawing paper, and game mats
    - Connect ST Math to equation style math problems
- Teacher resource site with webinars, chat support, printable materials
- Assigning homework
  - Students can always play completed games at home
  - Reorganize homework assignments
  - Teachers can individualize homework by creating up to eight groups and assigning specific games to each group

Participant Concerns:
- *Teachers who work in multiple schools have different log-ins for each school*
- *Rostering*
  - *Adding student to the list*
  - *How can students be reassigned to different teachers*
  - *Special education and intervention teachers can't build their own roster*
  - *Primary teachers can create groups of special population students to make it easier for special ed, ELL, or gifted teachers to find their students*

ST Math Site Visit: 2-5-ES-85 [SV: MGC/KG]
December 11, 2014

Educational Consultant: Twana Young
District Leader: 1001
Participants: K-5 classroom teachers (10)
Location: 2-5-ES-85

Introduction:
This site visit began with a brief meeting in the teacher lounge with the Educational Consultant and the District ST Math Leader, followed by four classroom visits. All classroom visits were conducted during grade level common planning time. Some grades had started using ST Math, while others were just starting out.

SITE VISIT (SUMMARY):
The Educational Consultant discussed how to read students' data, use fluency, and teacher mode with the District Leader. The District Leader described the lack of access to middle school level curriculum for elementary school teachers. During the classroom visits with teachers who were not yet using ST Math, the Educational Consultant showed teachers how to log on to ST Math, roster students, password training, emphasizing proper log out procedures. With teachers who had begun using ST Math, the Educational Consultant discussed assigning homework, reading student data reports, reorganizing curriculum, and the new math fluency feature. This site visit occurred during the DOD attack on ST Math, making it difficult for the Educational Consultant to access student data and Teacher Resources to review with teachers.

Successes:
- *High buy-in from teachers*
  - *Some are dropping other resources for ST Math*
- *District leader explains how the special education teachers and students love ST Math*
- *District leader is placing a liaison in each building that will have building wide access (administration level) to make ST Math more efficient*

Challenges:
- *Some teachers expressed reluctance towards using ST Math*
- *ST Math has had a bigger influence at elementary school level than the middle school level due to the middle schools constraint of 42 minute class periods*
- *Lack of access to curriculum at middle school level for elementary school teachers*
- *Some teachers have not been on ST Math*
- *Most teachers did not have an ST Math manual*

- *One teacher's students are not registered*
  - *District leader says this is the third teacher this has happened to*
- *Need overlap license for gifted students in 6ᵗʰ grade to transfer to 8ᵗʰ grade curriculum; 3ʳᵈ – 8ᵗʰ grade access set up through district*

Teacher Engagement:
- *One teacher appreciated the fluency worksheets and the teacher resources available*
- *One teacher is the long term substitute for the year and does not have his own login user name*

Parent Engagement:
- *District leader is planning parent curriculum nights throughout the district*

Technical Concerns:
- *DOD attacks to the system*

Teacher Concerns:
- *One teacher doesn't have confidence in ability to get ST Math started*
- *Many teachers expressed concern about the security threats on ST Math*
- *Some teachers nervous about students having to learn another password*
  - *13 picture passwords will present a challenge*
- *Some teachers expressed reluctance towards ST Math*
  - *Concern about time management*

Creating a JiJi Culture:
- *District leader discussed planning a family JiJi night where the parents come and play the ST Math games*
- *District leader is excited to build JiJi culture for next year after implementation*
- The Educational Consultant is going to get JiJi to come to the schools

ST Math Site Visit: 2-5-ES-86 [SV: MGC/KG]
December 11, 2014

Educational Consultant: Twana Young
District Leader: 1001
Participants: Classroom teachers
Location: 2-5-ES-86

Introduction:
The site visit consisted of four classroom visits. The Educational Consultant and the district leader briefly reviewed ST Math progress with teachers, assisted the teachers with getting students logged in and started with password training, answered teachers' questions, and walked them through data reports.

SITE VISIT (SUMMARY):
The district leader brought in a stack of manuals to give to the teachers. The first meeting was held in a 2nd grade classroom with two teachers during planning time. The Educational Consultant went over the basics of ST Math with one teacher in her classroom, while the district leader did the same with the other teacher's classroom. The Educational Consultant and the district leader started small groups of students in each teacher's classroom on ST Math. This was followed by a visit to a 5th grade classroom while students played ST Math games. The teacher had many questions that the Educational Consultant answered about data reports and status alerts. The final visit was to a 6th grade classroom where students worked on ST Math on chrome books. The Educational Consultant registered and set up password training for two new students.

Successes:
- *Students love ST Math and are very excited about being able to play the games*
- *Lower skilled student knew his password and successfully played ST Math games*
- *Most students knew how to log on to ST Math and were really excited to use the program*

Challenges:
- *One teacher expressed that the students who are not progressing are all her lower skilled students*
- *Not all upper grade students have bought-in to using ST Math*
- *One grade knew how to access ST Math, but about a third forgot their passwords and needed assistance in retraining*

Student Engagement:
- *In one classroom students give each other advice and encouragement while working on ST Math games*

- *Some students are quite competitive while playing ST Math games*
- *Three students pull out a piece of paper, without being asked, to work through the ST Math games*

Teacher Engagement:
- *One teacher has been using ST Math about 20 minutes daily*

Technical Concerns:
- *Teachers have been experiencing ST Math site not working when trying to get students to log on*
- *The school isn't showing up as an option when attempting to log on to ST Math*
  - o *This is an issue with activation code in this building*
- *The district leader discussed portal issues with transferring students from other schools*
- *A few teachers express concern over the DOD attacks to server*

Teacher Concerns:
- *One teacher sees Fluency as being frustrating for a student*
  - o *Student can't be fast and accurate*

Creating a JiJi Culture:
- The Educational Consultant suggested teachers use a map to track where JiJi is at around the world
  - o *Teachers liked the idea*

ST Math Site Visit: 2-5-ES-90 [SV: KG]
January 7, 2015

Educational Consultant: Twana Young
Participants: 2001; two 2nd grade teachers
Location: 2-5-ES-90

Introduction:
The visit included two classroom visits into 2nd grade classrooms, one brief meeting with another 2nd grade teacher to set up a future visit, and concluded with a data meeting with the Principal.

SITE VISIT (SUMMARY):
During the classroom visits the Educational Consultant taught the teachers and the students how to log onto ST Math, conducted password training, had them play the introductory games, and taught them how to log out and save their data correctly. The Educational Consultant instructed the Principal how to log into ST Math, change her password, and access and read data reports. One 2nd grade teacher reached out to the Educational Consultant to set up a site visit for her classroom and for another teacher for early February. The Principal is allowing the teachers to decide if they want to use ST Math and is encouraging teachers to set up their own site visits with the Educational Consultant directly.

Successes:
- *4th grade has completely embraced ST Math*
  - *Implemented stations throughout the week*
- *2nd grade has ST Math scheduled twice a week*

Challenges:
- *2nd grade curriculum is scheduled through Stepping Stones*
  - *ST Math schedule is restricted to through Stepping Stones*
- *Principal expressed the biggest challenge is getting a handle on so many resources and promoting ST Math*
- *Usage going way down during preparation for PARCC assessments*
- *Many students are nervous about playing the games without directions*
- *In both classrooms students are conversing and helping one another while playing ST Math*
- *There was apprehension about learning a 13 character password*

Student Engagement:
- *2nd grade students very enthusiastic about ST Math*
- *Students excited to receive postcards from JiJi's trip around the world*

- *Many students celebrate when they successfully complete a game*
- *All students in both classrooms remembered their passwords and how to correctly log out and save their data after training*
- *Students exhibited a positive reaction to the Today's Accomplishments screen*
- *One student approached the Educational Consultant about playing the games at home on his own chrome book*

Teacher Engagement:
- *High buy-in from teachers*
  - *Scheduled another site visit with the Educational Consultant*
- *One 2nd grade teacher reached out to the Educational Consultant and set up a site visit for her classroom and another teacher for early February*

Principal Engagement:
- *Principal took notes during meeting with the Educational Consultant*
- *Excited about the Student Detail Report;*
  - *Looking forward to using student reports during IEP and parent meetings*
- *Excited about using Scope and Sequence for PBAs*
- *Adding the Educational Consultants contact information to her weekly newsletter and web page*
- *Encouraging teachers to set up site visits*

Technical Concerns:
- *Some computers were not correctly configured to the specific school*

Teacher Concerns:
- *One teacher expressed concern regarding the fact that even though students might not pass the post-test they still get to move on*
- *Principal expressed how the Kindergarten teachers think ST Math is to advanced for their students*

ST Math Training part 1: 2-5-ES-90 [SV: MGC/KG]
December 11, 2014

Educational Consultant: Twana Young
Participants: 2001; elementary teachers (13)
District Level Administrators: 1001
Location: 2-5-ES-90

Introduction:
Abbreviated afterschool training took place in the school library. The participants brought their own laptops, but not all participants had computers with them. Some of the participants had already started using ST Math.

TRAINING (SUMMARY):
The Educational Consultant explains perception-action cycle, brings up the rotating JiJi game, and refers to PARCC Assessment. The Educational Consultant briefly reviewed password training, the teacher resource site, progress reports, and fluency. The Educational Consultant had the teachers play a few ST Math games as a group to teach them how to facilitate questions. The Educational Consultant ends the meeting by answering teacher questions. The Educational Consultant will send the school more ST Math manuals, and provided her contact information and an assurance that she would return to the school to provide further assistance.

Learn
- Teachers learn about ST Math and play a couple of sample games
    - Teachers using spatial temporal reasoning
    - Educational Consultant shows shift from visual to symbolic learning with ST Math

Teach
- Educational Consultant discussed password training
    - Explains that students who try to memorize the 13 picture password struggle
        - It should be muscle memory recognition
    - Educational Consultant recommends having students train to learn their password by having them race to see who can login with their passwords the quickest on the first day
    - Educational Consultant explains how to pull up student passwords to get into the portal
    - "Ticket to JiJi"
- Teachers learn about the Teacher Resources site
- Educational Consultant explains that the students need to "play the gray" to master levels and move on, and can play the green at home

Monitor
- Educational Consultant briefly discusses progress reports
- Educational Consultant discusses how some schools have EPP students set as a default
- Teachers briefly learn about alerts
  - "The bigger the bubble the bigger the trouble"
- Educational Consultant explains the goal is to get 2-3% syllabus progress a week
- Educational Consultant briefly discusses Fluency

Participant Concerns:
- *Some teachers are nervous because ST Math does not give students directions*
- *Teachers express concern about loosing data when ST Math server goes down while students are on ST Math.*
  - *Educational Consultant recommends using the same computers if possible so the data caches*
    - *Teachers say that is not a possibility*
- *Teachers have been experiencing a number of login issues*

Participant Engagement:
- *One teacher at the meeting already had the Educational Consultant come into her class to help her students' log onto ST Math*
  - *The teacher explained to the other teachers that the Educational Consultant was "awesome", helped all her students get logged on, and reassured the other teachers that the 13 picture password was not a problem because it is all about repetition*
- *One teacher showed the Educational Consultant a list of question the students wrote about ST Math*
  - *One question from a student was "Why is it so awesome?"*

APPENDIX

Math Matters: Knowledge Capture Field Observation Reports (10)

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]
November 20, 2014

Educational Consultant: Twana Young
Participants: 2005; 2006
Location: 1-3-MS-20

Introduction:
The Educational Consultant began the visit with a meeting with the principal and assistant principal, reviewing the agenda she had sent prior to this site visit. They asked general questions about ST Math and discussed targeted syllabus progress. Following this meeting, she met with the Response to Intervention team (RTI). RTI students struggle in English language arts and math, and are assigned to RTI according to STAR test data. This was followed by three classroom visits with 5th and 6th grade teachers.

SITE VISIT (SUMMARY):
In the first meeting, Educational Consultant reviewed school data and answered questions about ST Math, including questions about aligning ST Math curriculum with class curriculum. The Principal and Assistant Principal were specifically concerned about increasing parent engagement with the program, the limited ST Math time during PARCC assessment preparation, and reorganizing the curriculum.

The second meeting was with two Response to Intervention teachers, where the Educational Consultant reviewed basic information about the program, answered questions, and shared resources with the teachers working with special needs students. The remainder of the meetings were brief classroom visits and meetings in the hallway to answer teacher ST Math questions.

Student Engagement:
- *Students like using ST Math*
  - *Special needs student is very engaged with ST Math*
    - *Student is autistic and dyslexic, and likes problems without words*
- *Some teachers are assigning Moby Math at home but students prefer ST Math and want to use it at home*
- *One teacher is encouraging students with low completion to do extra sessions*

Teacher Engagement:
- *Teachers are learning what ST Math can do*
- *Buy-in is increasing*

Parent Engagement:
- *Schools are doing parent and community outreach*

- *School presented ST Math at PTO meeting*
- *Parents want to be able to see their children's progress*
    - *There is a way for parents to see their child's data reports at home*
    - *A teacher created a ST Math Progress Tracking form to send home to parents*
- Educational Consultant is working with schools to draft parent question to facilitate student homework

Principal Engagement:
- *Principal and Assistant Principal like the program*

Teacher Concerns:
- *One teacher was concerned that there was no progress in her class statistics immediately following an ST Math session*
    - There is a 24 hour delay for the statistics to update
- *Multiple teachers were unaware that homework could be assigned in ST Math*
- *Teacher asks whether there is a manual with ST Math*
- *Teacher wants to assign homework for ST Math*
- *Intervention teachers are trying to figure out where ST Math fits in*
    - *Balancing ST Math with IEP goals*
- *One RTI instructor is concerned that her students are not learning the concepts behind the games*
    - *Can't explain their thought process*
    - Educational Consultant suggests using teacher mode and playback to walk through the puzzles with the students
    - Manipulatives and game mats can also help
- *RTI teachers are concerned about covering materials that they are unfamiliar with*
    - It is impossible to know all of the puzzles
    - Teachers should use the opportunity to discover the strategies together with the student
    - Educational Consultant gives RTI teachers posters with facilitating questions
- Educational Consultant demonstrates teacher mode and playback
    - Game mats are available on the ST Math site

Building Leader Concerns:
- *Principal and multiple teachers inquired whether it is acceptable to realign the curriculum to fit class curriculum*
    - Reorganizing the curriculum disrupts student progress
    - Disrupts scaffolding nature of the program
    - Educational Consultant recommends that teachers only realign once

o   Educational Consultant recommends reorganizing it in the order of Springboard
- *Concern that classroom teachers are not covering the materials appropriately*

Technical Concerns:
- *Tech department is locking down iPads for PARCC in February, but they will be available again in March*
- *Limited lab time during PARCC assessment*
- *Questions about rostering students*

Creating a JiJi Culture:
- *One of the classrooms has a JiJi wall*
- *One teacher uses the sticker poster and claims it motivates kids*

ST Math Site Visit: 1-3-MS-20 [SV: MGC]
December 3, 2014

Trainer: Twana Young
Participants: 2006, classroom teachers from grades 5 and 6
Location: 1-3-MS-20

Introduction:
The site visit began with a discussion with the Assistant Principal, followed by classroom visits to 6th grade teachers.   The visit also includes a walk through of the 5th grade wing to answer teacher questions. Trainer and Assistant Principal walk through 5th grade pod and answer teacher questions. The visit ended with a debrief between Trainer and the Assistant Principal.

SITE VISIT (SUMMARY):
Assistant Principal and Trainer discuss school progress, data reports, and general goals for ST Math. Assistant Principal supplies Trainer with teacher information so that additional teachers can begin using the program. During classroom visits, Trainer addresses specific teacher concerns. With many of the teachers, Trainer brainstorms ideas to help students who are not progressing.

Successes:
- *Gifted students are excelling at the program*
- *Students enjoy ST Math*
  - *Want to play during winter break*

Challenges:
- *Teacher is having trouble finding 90 minutes per week*
- *Difficulty balancing ST Math time with time for other programs*
- *District push for iReady while school is pushing for ST Math*
  - *Integrating ST Math with iReady*
- *Assigning homework*
  - *Teachers are having difficulty choosing what to assign for homework*
  - *Homework cannot be individualized*
- *Some students are not logging out completely, which skews data*

Student Engagement:
- *Some students are not logging out completely – skews data*
  - Trainer recommends journaling
    - Students record daily progress which forces them to exit properly
    - Trainer will e-mail progress tracker sheet
  - May have poor time management

- Recommends time warning
- *Teachers using sticker poster to track progress*
  - *Students who are progressing love it*
  - *Student who isn't progressing as fast doesn't like it*
- *Some students want to play new games over winter break*
  - Assign optional objectives
  - Assign no more than 2-3 objectives

Teacher Engagement:
- *Some teachers don't regularly track student progress*
  - Plan to schedule time with teachers with slower syllabus progress
  - Problem solve with teachers with low scores
- *One teacher claims students don't like ST Math because they aren't progressing*
  - Trainer recommends reordering curriculum
- *Some teachers circulate room while students are using ST Math*
- *Some teachers use ST Math time to work at desk on other tasks*

Technical Concerns:
- *School received fewer iPad minis than expected*

Teacher Concerns:
- *Some students are having difficulty progressing past a certain level*
  - Examine data report to see where students are getting stuck
  - Create JiJi toolbox of manipulatives and graph paper
    - *Teacher has student use pencil and paper while doing ST Math*
  - Use facilitating questions to guide student learning
  - Provide student reflection questions
  - Try to keep kids from helping each other and talking
  - Use teacher mode
  - Get students to explain thinking
  - Fluency can be assigned at home to provide more time for syllabus progress at school
- *Shift from being teacher to facilitator*
  - *Teacher having trouble seeing students struggle*
  - *Teacher feels as if they haven't helped much*

Creating a JiJi Culture:
- Trainer is planning a visit from JiJi for schools achieving progress goals
- *Teachers are using sticker charts*

ST Math Site Visit: 1-3-MS-20 [SV: MGC]
December 9, 2014

Educational Consultants: Twana Young, Doug Bruno
Participants: Special Ed Teachers, Special Ed Director, District Level Instructional Coach,
Student Teacher, 5th/6th grade intervention teachers (8 total)
Location: 1-3-MS-20

Introduction:
Before the session, which took place in an administrative conference room, there was
an informal discussion about technical issues with ST Math. Educational Consultants
introduce themselves; the [district] staff also introduces themselves.

SITE VISIT (SUMMARY):
In this visit, the Educational Consultants review features of ST Math. They discuss the
scaffolded nature of the program and how it moves from visual to symbolic.
Educational Consultants provide suggestions for facilitating ST Math learning and
addresses specific concerns related to using the program with special needs students.

Challenges:
- *Increase in traffic on the site has caused access issues*
- *Special education teachers are having difficulty accessing student information*
    - *One teacher is using regular education teacher's log-in*
    - *Teachers cannot access Teacher Resources without log-in*
- *One student used school activation code at home and is nearly finished with ST
  Math curriculum*
    - *May lack deep content understanding*
- *Some teachers are having trouble balancing ST Math with other programs and
  curriculum needs*
- *Administrator want to see teachers using it as a tool rather than a babysitter*

Student Engagement:
- ST Math works best when students walk the line of frustration
    - Teacher mode can be used to help students think through puzzles
    - If a requisite skill is missing, test drive can fill in gaps
    - Test drive can be used in small groups or in a full class
    - Manipulatives can help students make connections
    - Have students to play previous levels to reinforce knowledge and build
      confidence
    - Breaks can help defuse frustration
- Give students opportunities to celebrate accomplishments
- ST Math can be used as part of a classroom rotation

Teacher Engagement:
- *One teacher is not using ST Math much because of too many other programs*
- *All teachers remained in the meeting when they were told they could leave if they needed to get ready for classes*

Teacher Concerns:
- *Special education teachers are not in the classroom during ST Math time*
  - Educational Consultant recommends checking student data reports to monitor progress and challenges
- *Special education teachers would like to work on specific skills identified on IEP using ST Math*
  - Optional objectives may help to fill in missing skills
  - Fluency can help build skills
    - Fluency has worksheets which conceptualize Fluency
    - In middle school, Fluency defaults to multiplication, but it can be changed to help with addition
- *Some teachers are uncomfortable with facilitating*

ST Math Site Visit: 1-3-MS-20 [SV: LB]
December 16, 2014

Educational Consultant: Twana Young
Participants: 2006; 5th and 6th grade teachers
Location: 1-3-MS-20

Introduction:
The visit began with a brief meeting with the Assistant Principal. After the meeting, Educational Consultant visited a 6th grade enrichment period before taking a break to discuss data with the Assistant Principal. Following the data discussion, the Educational Consultant and the Assistant Principal made an impromptu visit to a teacher with significant syllabus progress, then had an extended visit during enrichment time and Math class. The visit ended with a small mixed 5th and 6th grade special education class.

SITE VISIT (SUMMARY):
During class time, the Educational Consultant visited a series of classroom, as scheduled by the Assistant Principal. In the classrooms, the Educational Consultant modeled facilitation for teachers, worked with students who were struggling, and demonstrated teacher mode. During the meeting with the Assistant Principal, the Educational Consultant and the Assistant Principal reviewed data and compared STAR results with class syllabus progress. There seemed to be a correlation between improved STAR results and syllabus completion. There was also a significant improvement from last year's scores. The classroom visit with the special education teacher was mostly focused around shifting curriculum to facilitate student learning.

Successes:
- *Many students excelling at ST Math*
- *Most students are excited about ST Math time*
    - *Showing progress to classmates*
    - *Students were sad that they couldn't access ST Math during data outage*
- *Many students are doing Fluency*
- *Older students are using paper and hand gestures as they think through problems before asking for help*
- *The class with the most progress in the school*
    - *Does ST Math in sessions*
    - *Finds time to do ST Math nearly every day*

Challenges:
- *Limited technology available*
    - *Received fewer iPads than expected*
- *Some student data may be inaccurate because of ST Math outage*

- o *Progress will be updated after next ST Math session*
- *Many teachers have a high percentage of students with alerts*
- *Teacher created account for self – skews class data*
- *Some students are having difficulty verbalizing strategies*
- *Some teachers are unaware of teacher mode and how to read data frame*
- *Teachers are having difficulty transitioning from teaching to facilitating*
  - o *One teacher is teaching students one strategy rather than multiple strategies*
  - o *Educational Consultant recommends that students share their successful strategies with the class*
  - o *Educational Consultant mentions a school which trains students to be "ST Math Consultants" to help facilitate ST Math time*
  - o *Provide students with facilitation questions to help self-monitor*
- *Some students are afraid of making mistakes, need reassurance*
  - o *One special education student struggling with ST Math and losing math confidence*

Working with Special Education Students:
- Educational Consultant recommends trying special education students at grade level
  - o Use optional objectives or test drive to build foundational knowledge
  - o Reorganize curriculum to move more difficult games to later in the year
  - o Fluency can help build foundational skills
    - ▪ Increase default time for special education students
  - o Groups can be created to individualize student curriculum

Creating a JiJi Culture:
- *Students enthusiastic about ST Math time*
  - o *Student drew a picture of JiJi on whiteboard*
- *Students love the sticker progress chart*
- Educational Consultant will bring dog tags for student who finished syllabus
- Educational Consultant wants to bring JiJi to this school because of progress

ST Math Site Visit: 1-3-MS-21 [SV: MGC]
November 21, 2014

Educational Consultant: Twana Young
Participants: 2007; 3001; and an intern
Location: 1-3-MS-21

Introduction:
The meeting took place in the Principal's office, where an intern was also present. The Instructional Coach joined the meeting about 15 minutes into the data review. The Principal mentioned that her child has been playing ST Math at home on her iPad. This school is also using Eureka and Springboard for math.

SITE VISIT (SUMMARY):
Throughout this meeting, the principal and the instructional coach discussed challenges and successes at the school. The Educational Consultant reviewed class progress and data alerts with the Principal, as well as reordering curriculum. Students and teachers like ST Math, but the biggest challenge is a lack of time for ST Math in the school day. PD time has been devoted to ST Math, and teachers were paid to complete many of the ST Math webinars. The Educational Consultant reviewed information about accessing data reports, reorganizing curriculum, and assigning homework.

Successes:
- *Students with poor math skills feel successful with ST Math because of the lack of words*
- *PD time is being used to train in ST Math*
- *Technology has been available for using ST Math*

Challenges:
- *School is struggling to find 90 minutes per week*
  - *Scheduling is especially an issue for kids who need intervention because they are pulled from classes*
  - Educational Consultant recommends reaching out to other schools in the district to brainstorm ideas for scheduling
    - Consider using it in Math Club or in afterschool clubs
- *School may not be able to reach their goals this year because of time constraints, but they can strive to improve next year*
  - Teachers may be overwhelmed with the 90 minutes per week goal
  - Suggests smaller goal
- *Emphasis on special education and gifted students leaves students in the middle behind*
- *Many students do not have access to technology to play at home*

Student Engagement:
- *Students love using ST Math*
- *Special education students enjoy the program but don't have enough time due to pullouts*

Teacher Engagement:
- *Teachers are very happy with ST Math*

Technical Concerns:
- *School is experiencing roster issues*
- *Principal asked Educational Consultant to delete teacher who left and close unnecessary classes*

Teacher Concerns:
- *Teachers would like access to lower grade material at the school*

ST Math Site Visit: 1-3-MS-22 [SV: MGC]
November 12, 2014

Educational Consultant: Anthony Reynoso
Participants: 2003, Principal; 16 Math Teachers
Location: 1-3-MS-22

Introduction:
There was some confusion around the type of site visit this would be. The Educational Consultant, who was brought in from Louisiana, thought he would be doing classroom visits, working with teachers while they are using ST Math. The principal brought all of the math teachers together in the computer lab to review data reports and conduct an abbreviated training session.

SITE VISIT (SUMMARY):
The site visit was an abbreviated Part 2 training session. Teachers shared their successes and challenges. The Educational Consultant reviewed the school's progress, demonstrated how to access data reports and address status frame alerts, as well as addressing specific teacher questions.

Challenges:
- *Students are playing at the wrong time*
- *Some students are having trouble logging on*
- *Homework doesn't match what the students are doing at home*
- *Student progress doesn't match from classroom to classroom*

Student Engagement:
- *The students love to play ST Math*

Teacher Engagement:
- *During the training session, some teachers were checking e-mail*
- *Special education teachers have not been using ST Math because they have been using a different program*
- *Some teachers are using the program for homework*

Teacher Concerns:
- *Many teachers have gaps in knowledge at ST Math*
- *Rostering students*
    - School-wide access is necessary to transfer a student
    - A school administrator, Educational Consultant, or TY can transfer students
- *Technical issues*

- o *Chrome books do not cache info so the school/activation code needs to be entered each time*
- *Teachers are having trouble moving away from concepts before all of the students can grasp them*

ST Math Site Visit: 2-1-MS-51 [SV: MGC]
November 13, 2014

Educational Consultant: Twana Young
Participants: 3 teachers, 3007
Location: 2-1-MS-51

Introduction:
Meeting at 2-1-MS-51, a grades 6-12 school for ELL students. As classroom aides mainly participated in the MIND Research ST Math training sessions, teachers in the building are unclear on how to use ST Math in the classroom. Not all students at the school will be using ST Math; the plan is to begin with lowest math proficiency and lowest language skills students. Throughout the meeting the teachers and ESL Coordinator discussed many of the challenges for implementing ST Math at the school, including lack of familiarity with the program and lack of available technology

SITE VISIT (SUMMARY):
The teachers discussed many of the challenges that they are facing with math proficiency in their students. Some students lack basic math skills while others have advanced math skills. Many students lack English language proficiency. Trainer discussed some of the advantages of using ST Math with this particular student body and filled in some of the features and uses of ST Math.

Teacher Concerns:
- *Teachers were not sent to district training*
    - *Huge gaps in knowledge about the program*
    - *Limited resources for training teachers*
- *Large class sizes*
- *Some students are far below grade level in math*
    - *Some students don't know basic mathematical notation and symbols*
- *English language skills are limited for many students*
    - *Language development can be worked on 1-on-1 or as a full class while using ST Math*
- *Teacher is concerned about not knowing how to play the games prior to introducing it to students*

Technical Concerns:
- *Issues with getting iPads to work*
- *ST Math app won't work with iPhones*
    - *With limited technology, iPhone access would be useful*
- *Rostering issues*
    - *Students can only be in one class*

- o   *Students have not been entered, classes must be created manually*
- *Classes don't have access to computers because of tech access issues*

ST Math Site Visit: 2-2-MS-63 [SV: MGC]
November 18, 2014

Educational Consultant: Twana Young
Participants: 2012; 2013
Location: 2-2-MS-63

Introduction:
The visit began with a meeting with a functional support services unit teacher who works with cognitively impaired students. The Educational Consultant then met with the principal and assistant principal to discuss data reports, syllabus progress, and challenges that have arisen. After the meeting with the principal and assistant principal, the Educational Consultant met with 6th and 7th grade teachers before returning to the assistant principal's office for a debriefing during which the Educational Consultant offers to attend Teacher Team Based Meetings to discuss how ST Math fits with the common core and PARCC assessments. The session concludes with a 7th grade classroom visit.

SITE VISIT (SUMMARY):
The Functional Support Services teacher discussed how ST Math curriculum is beyond her students' abilities. The Educational Consultant showed her some components of ST Math including optional objectives and the Fluency section, which may help her students. In the meeting with the Principal and Assistant Principal there is a discussion of the school's inconsistent Internet and tech issues. The building leaders had not accessed the ST Math site, and during the meeting it was discovered that the Assistant Principal did not have administrative access. The Educational Consultant, the Principal, and the Assistant Principal discussed the data reports and how they can be used to monitor student progress, especially the progress of students with IEPs. In the visits to 6th and 7th grade classrooms, the Assistant Principal explains that double blocks were scheduled especially for ST Math and classrooms have been reorganized into 3 math learning stations to facilitate ST Math time. Students are on ST Math daily, and two teachers are available for classroom support.

Challenges:
- *Technology has been a challenge*
    - *School requested laptops and were given Chrome books*
    - *School does not have Chrome book log-in*
- *Many of the students cannot do ST Math homework because they don't have access to technology and the internet at home*

Student Engagement:
- *Students with cognitive impairment use the program during intervention time*

- o *Students have 18 minutes per session three times per week*
- o *Low time on task suggests that the students have low skills and are frustrated*
- o *Lack of directions is causing some trouble with these students*
    - ▪ Educational Consultant recommends giving them prompts to help facilitate their thought process
    - ▪ Educational Consultant demonstrates the tutorial tool and playback mode
        - • *Teacher thinks that the students will like these tools*
        - • The teacher should encourage the students to watch and learn from the animation
- o Educational Consultant recommends using Fluency with the students
    - ▪ Teacher can assign more time for students who need it
    - ▪ Lower level concepts are built into Fluency, but a few concepts may be absent
- o The teacher can project and do puzzles as a class
- • *A group of advanced 7th grade students are doing 8th grade content*

Teacher Engagement:
- • *Teachers were reluctant at first but are more enthusiastic now*
- • *Assistant Principal is planning to talk with teachers to see where ST Math has been a good fit*
- • *Teachers have been supported and interested in ST Math*
- • *6th and 7th grade teachers are using ST Math progress tracker from website to monitor each month's progress*
- • *Two 7th grade classrooms are broken into zones*
    - o *First classroom*
        - ▪ *ST Math rules on chalkboard*
        - ▪ *Small groups oriented around teacher*
        - ▪ *ST Math stations*
        - ▪ *1-on-1 space to meet with intervention teacher*
    - o *Second classroom*
        - ▪ *Students are noisy*
        - ▪ *No ST Math rules on the board*
        - ▪ *Almost all of the students are using devices*
            - • *Some working on ST Math*
            - • *Some working on math problems in small groups*
        - ▪ *Teacher circulates among students working in groups*
        - ▪ *Students are using Fluency and completing ST Math worksheets*

Principal Engagement:
- • *Principal and Assistant Principal don't know their login information*
    - o *Principal didn't know he had an account*

- o *Principal hasn't been looking at data reports*
- o *Assistant Principal does not have administrative access*
- *Assistant Principal excited that students can see data reports*
  - o *Sees value for IEP students*
  - o *Can be used to map and discuss progress with students*
  - o *Empowers the students to talk about their data*

Technical Concerns:
- *Rostering has been an issue*
- *Assistant Principal concerned bout losing data because of internet issues*
  - o Educational Consultant explains how ST Math saves the data

Teacher Concerns:
- *A teacher with the k-5 level function support services unit for cognitively impaired students asks for help*
  - o *All of the students have logged in but there is not much they can use because it is too advanced*
    - Educational Consultant recommends optional objectives and demonstrates how to access them
    - Teacher should assign only 1 optional objective as homework at first

Creating a JiJi Culture:
- School was able to schedule double blocks for ELA and Math in 6th and 7th grades
  - o ST Math is built into their stations, so they are on ST Math daily
  - o Two teachers are available for classroom support
  - o Shift from direct instruction
- Educational Consultant discusses the "JiJi Believer Challenge"
  - o Winning classroom receives prizes

ST Math Part 2 Training: 2-2-MS-63 [SV: MGC/KG]
December 10, 2014

Educational Consultant: Twana Young
Participants: Nine math teachers
Location: 2-2-MS-63

Introduction:
Training session took place in small classroom, with groupings of teachers. At each place were discussion prompts ("Table Talk Prompts") and guide sheets to help participants develop action plans for utilizing student reports. The Educational Consultant welcomed participants and asked everyone to sign in.

Educational Consultant introduces herself as Education Consultant, and asks the participants to turn their attention to the "Table Talk" discussion prompts on each of the desks and asks the participants to start discussing the prompts. These discussion prompts revolve around the successes and challenges of using ST Math.

TRAINING (SUMMARY):
The Educational Consultant began the training session by acknowledging the top JiJi players and answered questions about the DOD attacks to the ST Math system. The Educational Consultant and the teachers discussed successes and challenges thus far. The Educational Consultant provided many strategies that other schools are employing, and the teachers were highly receptive and gave their own recommendations for the MIND Research Institute. The Educational Consultant showed the teachers how to access the Teacher Resource Site.

Educational Consultant used a PowerPoint to review part 1 of the session and the agenda for this session. In part 1, the training focused on **Learn** and **Teach.** Part 2 focuses on **Monitor** and **Connect.** Participants review the data frames, learn how to interpret data reports, play several sample games, learn strategies for implementation, and address specific concerns that have arisen since the teachers started using ST Math in their classrooms. Two videos are shown throughout the session, including one demonstrating how to guide students through the games while using facilitating strategies such as answering a question with a question. The other video showed how using ST Math in the classroom with game mats and manipulatives. At the end of the session, training participants took an online survey.

Educational Consultant announced the highest percentages of curriculum completion among the teachers present and announced teachers who have made significant progress through ST Math curriculum. Educational Consultant asked teachers to write

down Successes and Challenges with ST Math on a worksheet at each station, and a teacher from each grouping shared an ST Math success and an ST Math challenge.

Teachers discussed the school's JiJi culture, and the Educational Consultant had a few more recommendations to engage students with JiJi. One teacher came back in the room after the session to thank the Educational Consultant for "going down the rabbit trail" during the training, i.e., going off topic to answer all their questions as they came up.

Successes:
- *Teachers are seeing high motivation from students on ST Math, especially from students who are usually not easily motivated*
- *Had a ST Math Day; students loved it and teachers are planning to do it again before winter break*
- *The school held an ST Math Social after school*
    - *60 sixth graders attended to play ST Math games and eat pizza*
    - *The students loved it and keep asking to do it again*
- *One teacher has implemented the concept of JiJi consultants within the classroom*
    - *Students become JiJi consultants by reaching a certain percentage, and are allowed to go around the classroom and help other students with facilitating questions*
    - *Another teacher has "knighted" students with a lanyard and they are available to help others with ST Math*
    - *Other teachers highly receptive to these ideas*
- *ST Math allows higher performing students to see concepts in a new way*
- *Teachers have noticed that students are more independent and work through their struggles*
- *Students are receiving instruction on certain concepts differently than they have previously and have seen success*
- *Students are receiving more practice in difficult concepts*
- *ST Math has facilitated dialogue with struggling and shy students*
- *Students like Today's Accomplishments screen*
    - *Provides positive encouragement, self-esteem, and extra motivation*

Challenges:
- *Working with higher skilled students*
    - *They get stuck on material they might know because ST Math forces them to see it differently*
    - *Higher skilled students not developing the concept behind the algorithm; not connecting how the algorithm relates to the puzzle*
- *Giving support during stations to students who are doing ST Math*

- *Have had more success when all students are doing ST Math and the teacher is available to go around the classroom and facilitate questions*
- *Finding a way to test on the conceptual parts of ST Math*
- *Teachers have noticed that students spend a lot of time looking at the game just trying to figure out what to do, especially in the beginning and when they only have one JiJi left*
- *Teachers having a hard time knowing when students who are really struggling and trying a puzzle 40-50 times when all they see is a "hurdle bar"*

Student Engagement:
- *Students love ST Math*
- *Students highly motivated*
- *Students are experiencing productive struggle*

Teacher Engagement:
- *High buy-in amongst the teachers*
- *Teachers discuss participating in the " JiJi Believer Challenge" and one teacher volunteered to take the lead*
- *Teacher recommends having a board in the classroom that the students can contribute to that shares ST Math manipulatives, tools and strategies*
- *Teachers like the Educational Consultant's suggested strategies, such as the "Overcoming Club", Tech Managers, and Table Talks*

Technical Concerns:
- *Not being able to access ST Math because of DOD attacks*
- *Students logging off correctly and causing their data not to be saved correctly*

Teacher Concerns:
- *Many teachers express concern involving the DOD attacks against the ST Math system*

Teacher Suggestions for MIND Research Institute:
- *ST Math needs a resource where a teacher can type in games and it suggests manipulatives to use*
- *Teachers suggest that the MIND Research Institute make a twitter handle that is just JiJi; students would love it and great for information sharing*

Creating a JiJi Culture:
- *One student dressed up at JiJi for the Halloween dance*
- *The 6th grade math team dressed up as JiJi*
- *Teachers were excited when the Educational Consultant discussed bringing JiJi to schools with good Jiji culture, bringing teachers and students "JiJi Swag", and following JiJi on social media and Pinterest*

- The Educational Consultant shared information on the JiJi Believer Challenge
- The Educational Consultant suggested opening a "JiJi Store" where students can earn points through ST Math and use those points to buy JiJi swag
    - *Teachers were excited about the idea and asked the Educational Consultant to send a blueprint of what another school has done with their store*
- The Educational Consultant discusses JiJi post cards and how some schools have put up maps in the classroom to track where JiJi is

ST Math Site Visit: 2-3-MS-66 [SV: MGC]
December 5, 2014

Educational Consultant: Ankur Bhatia
Participants: 2011; classroom teachers
Location: 2-3-MS-66

Introduction:
The site visit began in a 7th Grade classroom, continued with two brief visits with 8th Grade classroom teachers, an unscheduled meeting with the Principal, and ended with a brief visit to the computer lab and a revisit with one of the classroom teachers.

SITE VISIT (SUMMARY):
During the classroom visits and meeting with the Principal, the Educational Consultant addressed specific concerns, answered questions, and explained data reports. The first classroom visit was lengthy, the Educational Consultant explained fluency and data reports to the teacher before her students arrived, and remained in the room for several classes observing ST Math usage. The teacher conducted direct math instruction, after which the Educational Consultant explained how she could sue ST Math to support this particular math objective. Other teachers had few or no questions for the Educational Consultant. The Principal has not been engaged in ST Math implementation, and was brought up to date on school progress and student data report during an unscheduled meeting. Implementation has been inconsistent throughout the school. Some teachers are devoting 45 minutes every week to ST Math and others are only using it once every other week. Access to technology and scheduling have been challenges, as well as building leader support.

Successes:
- *Students have completed diagnostics*
- *Students enjoy the program*

Challenges:
- *Use of ST Math has been inconsistent*
  - *Some teachers are using ST Math only 45 minutes per week while others are only using it every other week*
  - *Short class periods*
  - *School is trying to schedule ST Math time during other classes*
  - *Too many assessments limit time available for ST Math*
- *Limited available technology*
  - *One laptop cart for the entire building*
- *Students are forgetting passwords because they are not using the program often enough*

- *iPads not connecting to the system because of limited bandwidth at the school*
- *Not all students have internet access at home*
- *Some teachers do not have manuals*
- *Some teachers like the program, but don't have sufficient time to utilize it fully*
- *One teacher has not checked whether students are using the program at home*

Student Engagement:
- *Concern about low time on task*
  - *Advised to set short term goals and keep tabs on student progress*
- *Some students are not very engaged with ST Math during class time*
- *Principal would like to do more to help upper level students to flourish*
  - *Educational Consultant recommends moving gifted students to a higher grade*

Teacher Engagement:
- *Some teachers report using ST Math as an activity every other week*
- *Teachers have to adjust expectations for completion of the objectives because of limited time and late start*
  - *Once consistent usage is in place, teachers will see more progress and students will be more motivated*
- *Teachers are having trouble facilitating*
- *Teacher is planning to meet with a colleague to figure out how to use ST Math*
  - *Education consultant directs her to the instructional videos on the website*
- *One teacher is using the program to close gaps and not for instruction*

Principal Engagement:
- *Principal has not logged onto ST Math*
- *Principal was interested in reviewing data reports*
- *Principal does not see ST Math as a valuable tool for his students because the lower level students are already being helped*
- *Would like to see more emphasis on gifted students*

Technical Concerns:
- *Limited technology available*
- *Difficulty connecting iPads to site because of limited bandwidth*
- *Fluency feature had not been turned on at the time of the visit*

APPENDIX

Math Matters: Knowledge Capture Field 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); high school (HS); and K-12 (K-12-ALL), and the last number in the series signifies the school building.

ST Math Training part 1: 1-1-ES/MS-ALL [SV: KG]
December 16, 2014

Educational Consultant: Twana Young
Participants: Middle School teachers (2); Elementary School teachers (16)
District Level Administrator: [not identified]
Location: 1-1-ES/MS-ALL

Introduction:
Abbreviated afterschool ST Math part 1 training session at the [district building] computer lab with teachers from district elementary and middle schools.

TRAINING (SUMMARY):
Educational Consultant had teachers discuss the concepts on the tabletop discussion cards as they waited to get started. Educational Consultant used this time to help a few teachers log in to ST Math. The training session began with the District Administrator discussing the district-wide excitement and successes with the program. The Administrator shared that they are seeing double and triple the growth in certain classrooms that are using ST Math on a regular basis. Educational Consultant followed up by giving the participants her contact information, and gives a brief background on herself and ST Math.

The Educational Consultant discussed the perception action cycle and spatial temporal reasoning before pulling up an ST Math game for the teachers to practice. The Educational Consultant briefly reviewed how to access and read data reports. Teachers practiced sorting status frame alerts. The Educational Consultant showed the participants data they can see while students are playing and Teacher Mode. Participants worked in small groups to model asking facilitating questions to uncover student thinking.

Learn
- Educational Consultant briefly discussed the perception action cycle
  - Explains that the part that is hard for students is when they have to adjust their thinking
  - Teacher facilitation is important
  - Educational Consultant discusses how ST Math pushes spatial temporal reasoning
- Participants learn what each alert means and what they should do
  - High number of tries
  - Extra plays alert
  - Level Cancelling alert
  - Decreasing test score alert

      o   Low time on task alert

Teach
- Educational Consultant recommends that teachers have the students leave their quizzes up to check and count the post-quiz as a homework grade
- Educational Consultant teachers the participants how to use Teacher Mode
- Educational Consultant displayed the Tracker Chart for syllabus progress, and is going to send each participant one
- Participants learn about the Teacher Resource Site

Monitor
- Educational Consultant quickly went over how to access and read data reports
  - Syllabus Progress, Class Roster, Transferring Students, Individual Reports
- Educational Consultant had the teachers go to their reports and sort by the alerts
- Educational Consultant discussed Usage Reports, and the goals of earning 2-3% syllabus progress a week
- Educational Consultant walked the participants through the student detail report
- Educational Consultant showed the participants data they can see while students are playing

Participant Concerns:
- *Some teachers are concerned that students must learn a 13 character password*

Participant Engagement:
- *Teachers really like the Student Detail Report*
- *Teachers appreciate the Teacher Resource site*

Math Matters Sandbox Session 1: 2-5-K-12-ALL [SV: MGC]
November 4, 2014

Facilitator: [District] Title 1 Elementary teacher
Participants: 13 teachers, mostly from Middle Schools
Location: 2-5-ES-87

Introduction:

District in-service day, teachers signed up for ST Math Sandbox, an opportunity to discuss their experience with ST Math following the MIND Research training sessions October 15 and 16. Sandbox sessions took place in a classroom, with teachers sitting in small groups at tables. Mixed level of engagement with the Sandbox session, though it appears that those not actively engaging with the facilitator are discussing ST Math amongst their group at their tables. Approximately half of the participants raised their hands to indicate they have been using ST Math since the October training sessions.

Whiteboard in the room is set up with a table format with 3 columns:
1. What is going well
2. What roadblocks have come up
3. What additional information is needed

SITE VISIT [SUMMARY]:

Facilitator introduces herself as _not_ being an ST Math expert, but as a volunteer to help run the session. She guides teachers to discuss achievements, challenges and questions about ST Math, and types information onto the whiteboard columns accordingly. Facilitator shares her own experience with ST Math, and compiles a list of questions to submit to the [District] Math Curriculum Director. Teachers also share best practices for ST Math use.

Achievements:
- _Student engagement/learning_
  - _Students love it [even older ones]_
  - _Students cannot wait to get onto ST Math in class_
  - _Students prefer it to other math programs available_
  - _Students are able to learn their passwords_
  - _Students are more willing to ask questions_
  - _ST Math does a good job of keeping students on pace_
  - _Some students are making enormous progress through the curriculum_
  - _Students pick it up very quickly_
  - _Can see that students will have greater depth of understanding of math_
  - _Hearing the kids exclaim "oohh" when they understand a math game_

- o *Students are learning perseverance*
- o *Using ST Math is changing attitudes about math*
- *Teacher Engagement/Logistics*
    - o *Some teachers find access to ST Math very easy*
    - o *Teachers find the student alerts very helpful, providing more feedback on student usage than other math programs they have used*
    - o *Teachers find being able to see how many times a student has tried a game very helpful*
    - o *Teachers appreciate being able to see how many students are working at home and how many are working at school*
    - o *When four teachers working together could not figure out a game, a student with low cognitive skills came up to them to successfully explain it*
    - o *One teacher was initially not excited about ST Math but has now become a huge supporter*
    - o *Teachers feel it is more effective than other math programs they have been using*
    - o *Teachers are thinking ahead to how ST Math skills will help with PARCC assessments*
- *Parent Engagement*
    - o *Parents have provided feedback*
    - o *Children continue to play ST Math at home*
    - o *One school held training for Title 1 parents*
        - ▪ *Parents see the potential of the program*
- *Special Education/Gifted/ELL*
    - o *ELL students love ST Math*
        - ▪ *ST Math corrects deficits*
    - o *Student with [undiagnosed] disability is engaging with using ST Math*
    - o *Visual aspect has been hugely helpful for students who struggle with math concepts*
- *Technical Support/Technical Issues*
    - o *Teachers have not experienced issues with getting on ST Math in the school computer lab*
    - o *MIND Research help desk is very helpful and responsive*
        - ▪ *Teacher who has called repeatedly has never been put on hold*
    - o *Education Consultant responds quickly to teacher questions*
    - o *Teacher was excited to discover teleportation [rostering] is an easy process*

Challenges/Roadblocks:
- *Student Engagement/Learning*
    - o *Students with low frustration level are having most difficulty with perseverance*

- o *30 minutes available for ST Math is not enough time to get students through essential material*
- *Teacher Engagement/Logistics*
  - o *Same grade math teacher at one school does not like change and is resistant to ST Math*
  - o *One teacher is unsure how to interpret status frame alerts and data reports*
- *Special Education/Gifted/ELL*
  - o *Teacher does not know how to change content for accelerated students*
- *Technical Support/Technical Issues*
  - o *Cannot get to ST Math website through the school site, need to use the portal*
  - o *Some students don't have computer access at home*
    - ▪ *Difficult to assign internet homework*

Questions/Concerns:
- *Student Engagement/Learning*
  - o *One student [out of 80] cannot remember her password*
  - o *Teachers would like to know if lessons can be printed off for students who work better with pencil and paper*
  - o *What to do with "click happy" students*
  - o *Students are replaying games*
- *Teacher Engagement/Logistics*
  - o *Teachers ask about working with students as an entire class—is there a training module*
  - o *Facilitating ST Math*
    - ▪ *Teachers would like to see a skilled teacher facilitate ST Math in the classroom*
    - ▪ *Teachers would like tips on what to do when students try to help each other*
    - ▪ *Teachers are struggling with only asking students questions and not giving them answers*
  - o *Sometimes teachers feel over-needed, other times under needed*
  - o *Possibility of getting print out of passwords so substitute teachers can help students*
  - o *Teachers would like a set of manipulatives that come with ST Math*
  - o *Scheduling time for ST Math has been a challenge*
- *Parent Engagement*
  - o *Parents have been asking for ways to follow their child's progress with ST Math during Individual Education Plan [IEP] meetings*
  - o *District has not informed parents about ST Math – it has fallen to teachers*
- *Special Education/Gifted/ELL*

- o   *Moving kids above or below grade level in content*
- o   *How to change content for an accelerated class*
- o   *How to assign work that is below grade level for specific students*
- *Technical Support/Technical Issues*
  - o   *Some students have passwords that are not working consistently*
  - o   *Access issues for intervention teachers*
  - o   *How to access students*
  - o   *How to transfer students*
  - o   *Where to find section on fluency that was shown during the training session in the Teacher Resource site*
  - o   *Some students do not have computer access at home*
    - ▪   *Can students take home Chrome books*
      - •   *Working on ways for parents to check them out*
    - ▪   *District is trying to get elementary to 1 to 1 before moving on to the middle school*
    - ▪   *Parents ask if Is there any tech that is not supportive of ST Math*

Best Practices/Recommendations:

- *Student Engagement/Learning*
  - o   *Prepare older students with comments that the penguin is "kind of cheesy"*
  - o   *Encourage students not to look at other students' screens during ST Math*
    - ▪   *Particularly during password training*
  - o   *Students with low skills benefit from helping other students*
    - ▪   *Demonstrating that they have learned the concepts*
  - o   *Have students do reflection piece at the end of the session to learn accountability*
  - o   *Set goals for how many puzzles the students will solve in the coming week*
  - o   *Set up competitions between groups*
  - o   *Encourage students to NOT write down their passwords, but learn them*
  - o   *Students like being able to see the JiJi poster tracking progress*
  - o   *Have students solve parts of problems with pencil and paper to help them make connections*
    - ▪   *Encouraging students to use pencil and paper will help reinforce for students that they need to embrace these skills for everyday use*
  - o   *Balance lessons for students who are not auditory learners and students who need auditory stimulus to learn*
- *Teacher Engagement/Logistics*
  - o   *Review the alerts with students after a couple of sessions so they are aware the teacher can tell when they are not working*

- o Watch MIND learning modules,
  - It takes less time than is posted
- o Look at all the resources offered through MIND learning modules
- o Teachers must provide a bridge between ST Math Modules, everyday activities, and testing
- Special Education/Gifted/ELL
  - o Intervention teachers can make their own classes or share log in information with primary teacher
  - o Reordering the standards can help with addressing gaps in knowledge
  - o Teacher can go into ST Math under test drive to work with pull out students on specific skills
- Technical Support/Technical Issues
  - o Students accessing ST Math at school vs. home
    - Proper log in protocols
  - o Going through the portal is most consistent way to access ST Math
  - o Keep the MIND Research help desk number available during ST Math sessions

Math Matters: ST Math 2-5- K-12 -ALL Session 2 [SV: MGC]
November 4, 2014

Facilitator: [District] Elementary teacher
Participants: 14 teachers, mostly from Elementary Schools
Location: 2-5-ES-87

Introduction:
District in-service day, teachers signed up for ST Math Sandbox, an opportunity to discuss their experience with ST Math since the MIND Research training sessions October 15 and 16. Sandbox sessions took place in a classroom, with teachers sitting in small groups at tables. Mixed level of engagement with the Sandbox session, though it appears that those not actively engaging with the facilitator are discussing ST Math amongst their group at their tables.

Whiteboard in the room is set up with a table format with 3 columns:
1. What is going well
2. What roadblocks have come up
3. What additional information is needed

SITE VISIT [SUMMARY]:
Facilitator introduces herself as <u>not</u> being an ST Math expert, but as a volunteer to help run the session. She guides teachers to discuss achievements, challenges and questions about ST Math, and types information onto the whiteboard columns accordingly. Facilitator shares her own experience with ST Math, and compiles list of questions to submit to the [District] Math Curriculum Director. Teachers also share best practices for ST Math use.

Achievements:
- *Student Engagement/Learning*
  - *Students love it*
    - *Teachers worried students would think it "stupid"*
  - *Students prefer it to other math programs available*
  - *Builds problem solving and critical thinking skills*
  - *Students like getting immediate feedback*
  - *Students like the poster*
  - *Students like being acknowledged for their accomplishments*
  - *Students competed for progress with percentages through curriculum*
  - *Students pick it up very quickly*
  - *Some students are making enormous progress through the curriculum*
  - *Students are engaged and are using it daily*
  - *Students are honest on reflection sheets*

- o *Students are learning perseverance*
- o *Teachers are seeing student progress*
- o *Students want to do homework*
- *Teacher Engagement/Logistics*
  - o *Received a postcard when class reached 10%*
  - o *Resources are available on ST Math site*
  - o *Some days students need very little help*
  - o *Teachers like the status frame alerts*
  - o *Teachers feel it is more effective than other math programs they have been using*
  - o *Teachers thinking ahead to the Partnership for Assessment of Readiness for College and Careers [PARCC] assessments and how ST Math skills will help*
- *Parent Engagement*
  - o *Parents have provided feedback and conveyed that they can help their children with ST Math*
- *Special Education/Gifted/ELL*
  - o *Students come in during lunch for ST Math time*
    - ▪ *Students feel a sense of accomplishment because they can do something at grade level*
    - ▪ *Students feel they can progress more quickly than they could in other programs*
- *Technical Support/Technical Issues*
  - o *Technology in the classroom allows for more frequent access*
  - o *Students can log in through portal at home*

Challenges/Roadblocks:
- *Student Engagement/Learning*
  - o *Students with low frustration are level having most difficulty with perseverance*
- *Special Education/Gifted/ELL*
  - o *Special education and ELL teachers have trouble accessing student material*
  - o *Need to backtrack on skills to bring struggling students up to grade level*
  - o *Some teachers find it hard to trust the process*
    - ▪ *Want to move gifted students up and low performing students down to synch with grade levels*
- *Technical Support/Technical Issues*
  - o *One teacher reported their classes only have 30 minutes – 5 minutes to log-in, 5 minutes for closing activities, and stated that they need 10 more minutes to do more substantive work*
  - o *One teacher cannot get 5th and 6th graders in to the program*
  - o *One teacher's log-in is not working and so has resorted to using demo*

       o   *Students can't be shared between regular and intervention teachers*

Questions/Concerns:
- *Student Engagement/Learning*
  - *Teachers would like to know if lessons can be printed off for students who work better with pencil and paper*
- *Teacher Engagement/Logistics*
  - *Facilitating ST Math*
    - *Teachers would like to see a skilled teacher facilitate ST Math in the classroom*
    - *Teachers would like to see videos about how to facilitate a class*
    - *Some days teachers feel unable to help their students*
  - *Teachers are not sure how to participate with the program*
    - *Teachers would like tips on what to say to students with high number of tries*
  - *Sometimes teachers feel over-needed, other times under-needed*
    - *Teachers are having trouble trusting the process on days students need very little help*
  - *Teachers would like a set of manipulatives that come with ST Math*
  - *Scheduling time for ST Math has been a challenge*
  - *Teachers are concerned about how ST Math will translate to PARCC*
  - *In reference to the TED Talk film of Dr. Peterson, some teachers not seeing development of language skills*
  - *Teachers would like copies of pre/post tests*
  - *Teachers are unaware of resources on website*
  - *Teachers wonder if it is possible to go too fast*
    - *Teacher has student with 30% progress in two weeks*
- *Special Education/Gifted/ELL*
  - *Moving kids above or below grade level*
  - *Some lower performing students need emotional support, especially those who give up easily*
  - *Teachers want to know how to assign work that is below or above grade level for specific students*

Best Practices/Recommendations:
- *Student Engagement/Learning*
  - *Have students do reflection piece at the end of the session to learn accountability*
  - *Set up competitions between groups*
  - *Students like being able to see the JiJi poster tracking progress*
  - *Have students solve parts of problems with pencil and paper to help them make connections*

- *Encouraging students to use pencil and paper will help reinforce for students that they need to embrace these skills for everyday use*
- *Teacher Engagement/Logistics*
  - *Teachers should review status reports before class*
  - *When students are having trouble teachers should sit with them and discuss student thought process*
  - *Assigning homework*
    - *Assign optional objectives for students with below grade-level skills*
  - *Assign journals/reflections*
  - *Review daily accomplishments*

Math Matters:
MIND Research Institute
Mid-Year Report on ST Math

January 30, 2015

MIND Research Institute
Appendix
ST Math Mid-Year Report Summary

Section 1 - Project Level Overview of ST Math Implementation Progress

The progress data and event activity presented in the following mid-year report on the implementation of the ST Math program is based on usage and the associated professional services delivered in support of the program as of January 9, 2015. Currently, 79 of the 100 schools participating in the project are actively implementing the ST Math program with a total 21,011 students from Kindergarten through High School across the 10 districts/organizations participating. This total represents a 73% increase in the number of students exposed to ST Math since our first quarterly report 11 weeks ago (data as of October 24, 2014). There are a total of 809 teachers that have active students utilizing various ST Math programs.

ST Math Progress

Average Syllabus Progress is the measure used to track the percentage of assigned grade level content that a student has completed within the ST Math program. Our suggested usage protocol for the program is 60 minutes per week for grades K-1 and 90 minutes per week for grades 2-6. These times can be met in 2-3 sessions per week, ideally scheduling sessions for no fewer than 30 minutes at a time. This minimum time allows for students sufficient time to thoroughly work through puzzles, games, or levels that present a significant challenge. With the ultimate goal of completing 100% of the assigned grade level content by the end of the year, schools should strive to reach 1% Average Syllabus Progress per Lab Login or 2-3% Average Syllabus Progress per week. As the *ST Math Progress by District* table below shows, half of our participating districts are approaching the goal of 1% per login. A known factor impacting Average Progress in comparison to Lab Logins is the amount time spent on ST Math per session. MINDs Consulting team is working on guiding schools to scheduling solutions that meet the suggested time requirements when that is identified as a contributing factor to slow growth. Across the project, Kindergarten and First Grade classrooms are closest to meeting and exceeding progress expectations with 1.3% and .9% average progress respectively (see *ST Math Progress by Grade* table on next page).

It is also important to recognize the different progress expectations between the *ST Math K-6* curriculum and our intervention programs being utilized in grades 6-HS, *Middle School Supplement* (MSS) for grades 6-8 and *High School Intervention* (HSI). These programs begin by providing the student a diagnostic that when completed may assign content below grade level as necessary for students with skill deficits below their current grade level. This individualization of assigned content based on need therefore creates the possibility of a substantial increase in the overall amount of content possibly assigned. It is common for Progress per Lab Login to be lower than 1% for students using these intervention levels within the ST Math program, as is the case with the MSS/HSI averages shown on the *ST Math Progress by Grade* table that follows in Grades 6 - HS (next page).

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 by District

	Students	Lab Logins	Average Progress	Progress/Lab Login
Columbus City Schools	957	7.9	3.1	0.4
Fairfield County ESC	89	8.3	3.1	0.4
Gahanna Jefferson City Schools	399	59.4	19.6	0.3
Hamilton Local SD	1390	9.5	7.4	0.8
Hilliard City Schools	5876	16.9	13.3	0.8
Lancaster City Schools	3675	15.4	9.5	0.6
Liberty Union-Thurston SD	215	6.9	4.7	0.7
Pickerington Local SD	4778	19.3	15.2	0.8
Walnut Township SD	309	18.4	14.5	0.8
Worthington SD	3323	9.3	7.1	0.8
Total	**21011**	**15.8**	**11.2**	**0.7**

ST Math Progress by Grade

	Students	Lab Logins	Average Progress	Progress/Lab Login
Kindergarten	2087	9.7	12.2	1.3
First Grade	2766	13.0	12.0	0.9
Second Grade	3011	15.7	11.1	0.7
Third Grade	3009	18.8	14.1	0.8
Fourth Grade	2851	18.6	12.1	0.6
Fifth Grade	2958	16.5	12.3	0.7
Sixth Grade	1432	20.2	13.2	0.7
Sixth Grade MSS	586	26.2	9.9	0.4
Seventh Grade MSS	1010	16.4	3.5	0.2
Eighth Grade MSS	1029	7.0	2.2	0.3
High School Intervention	272	4.5	1.1	0.3
Total	**21011**	**15.8**	**11.2**	**0.7**

Indicators of Success

Schools implementing the ST Math program have shared the positive affects they have seen with their students over the early stages of their implementation. Teachers have noticed an increase in student engagement especially with students who have had a history of low engagement with mathematics. The structure of the program has increased students desire to figure out the problems presented in ST Math for themselves. A common report from schools has been students asking teachers for permission to spend extra time during lunch and recess to play ST Math. This level of engagement with the program has resulted in positive early observations about school and classroom data. One of the higher performing ST Math schools (>15% syllabus progress) compared their math data from September/October of 2013 to September/October of 2014 and realized an average increase of 12 points in their scaled score. Their NCE score almost tripled and their change in the percentile rank almost doubled. This is just one example of early signs of improvement that we are hearing. Several schools have mentioned the increase in their scores on various district assessments. Those districts are in the process of analyzing the data further to determine student performance relative to ST Math use.

Active Teachers – The following table lists the number of teachers per school/district that currently have students actively using ST Math.

District	Institution name	Teachers
Columbus City Schools	Broadleigh Elementary School	1
Columbus City Schools	Burroughs Elementary	1
Columbus City Schools	Cassady Alternative Elementary School	2
Columbus City Schools	Columbus Global Academy	2
Columbus City Schools	Eakin Elementary School	1
Columbus City Schools	East Linden Elementary School	1
Columbus City Schools	Gables Elementary School	1
Columbus City Schools	Hubbard Mastery School	1
Columbus City Schools	Innis Elementary School	6
Columbus City Schools	Johnson Park Middle School	3
Columbus City Schools	Medina Middle School	1
Columbus City Schools	Mifflin Alternative Middle School	2
Columbus City Schools	Mifflin High School	1

District	Institution name	Teachers
Columbus City Schools	North Linden Elementary School	1
Columbus City Schools	Northland High School	1
Columbus City Schools	Northtowne Elementary School	5
Columbus City Schools	Salem Elementary School	1
Columbus City Schools	Siebert Elementary School	1
Columbus City Schools	Valley Forge Elementary School	1
Columbus City Schools	Wedgewood Middle School	2
Columbus City Schools	Woodcrest Elementary School	1
	Total	**36**
Fairfield County ESC	Fairfield County Education Service Center	13
	Total	**13**
Gahanna Jefferson City Schools	Gahanna Middle School - West	8
	Total	**8**
Hamilton Local SD	Hamilton Elementary School	37
Hamilton Local SD	Hamilton Middle School	4
	Total	**41**
Hilliard City Schools	Alton Darby Elementary School	15
Hilliard City Schools	Avery Elementary School	16
Hilliard City Schools	Beacon Elementary School	20
Hilliard City Schools	Britton Elementary School	15
Hilliard City Schools	Brown Elementary School	23
Hilliard City Schools	Darby Creek Elementary School	20
Hilliard City Schools	Hilliard Crossing Elementary School	21
Hilliard City Schools	Hilliard Horizon Elementary School	23
Hilliard City Schools	Hoffman Trails Elementary School	15
Hilliard City Schools	J W Reason Elementary School	20
Hilliard City Schools	Norwich Elementary School	12
Hilliard City Schools	Ridgewood Elementary School	22
Hilliard City Schools	Scioto Darby Elementary School	19
Hilliard City Schools	Washington Elementary School	19
	Total	**260**
Lancaster City Schools	Cedar Heights Elementary School	18
Lancaster City Schools	East Elementary School	16
Lancaster City Schools	General Sherman Junior High School	10
Lancaster City Schools	Lancaster Senior High School	1
Lancaster City Schools	Medill Elementary School	15
Lancaster City Schools	Sanderson Elementary School	10
Lancaster City Schools	South Elementary School	11

District	Institution name	Teachers
Lancaster City Schools	Tallmadge Elementary School	10
Lancaster City Schools	Tarhe Elementary School	20
Lancaster City Schools	Thomas Ewing Junior High School	6
Lancaster City Schools	West Elementary School - OH	12
	Total	**129**
Liberty Union-Thurston SD	Liberty Elementary School	6
	Total	**6**
Pickerington Local SD	Diley Middle School	12
Pickerington Local SD	Fairfield Elementary School	15
Pickerington Local SD	Harmon Middle School	13
Pickerington Local SD	Heritage Elementary School	15
Pickerington Local SD	Pickerington Elementary School	18
Pickerington Local SD	Sycamore Creek Elementary	26
Pickerington Local SD	Toll Gate Elementary	23
Pickerington Local SD	Toll Gate Middle School	8
Pickerington Local SD	Tussing Elementary School	19
Pickerington Local SD	Violet Elementary School	15
	Total	**164**
Walnut Township SD	Millersport Elementary School	12
	Total	**12**
Worthington SD	Bluffsview Elementary School	5
Worthington SD	Brookside Elementary School	11
Worthington SD	Colonial Hills Elementary School	11
Worthington SD	Evening Street Elementary School	9
Worthington SD	Granby Elementary School	8
Worthington SD	Kilbourne Middle School	4
Worthington SD	Liberty Elementary School	6
Worthington SD	McCord Middle School	7
Worthington SD	Phoenix Middle School	2
Worthington SD	Slate Hill Elementary School	18
Worthington SD	Thomas Worthington High School	3
Worthington SD	Wilson Hill Elementary School	17
Worthington SD	Worthington Estates Elementary School	10
Worthington SD	Worthington Hills Elementary School	7
Worthington SD	Worthington Kilbourne High School	3
Worthington SD	Worthington Park Elementary School	12
Worthington SD	Worthingway Middle School	7
	Total	**140**
	Grand Total	**809**

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. Since November 1st, MIND has delivered over 80 individual events in Math Matters schools to support the implementation of ST Math. 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

- **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

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 | Self-Guided Courses by Number | | | | | | |
	2	3	4	5	6	7	Total
COLUMBUS CITY SCH DISTRICT	5						5
COLUMBUS GLOBAL ACADEMY	1						1
EAST LINDEN ELEMENTARY SCHOOL	1						1
INNIS ELEMENTARY SCHOOL	1						1
WEDGEWOOD MIDDLE SCHOOL	1						1
WOODCREST ELEMENTARY SCHOOL	1						1
FAIRFIELD CO ED SERVICE CENTER	3	3	2				8
FAIRFIELD CO ED SERVICE CENTER	3	3	2				8
GAHANNA-JEFFERSON PUBLIC SD	1						1
GAHANNA MIDDLE SCHOOL-WEST	1						1

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DISTRICT/SCHOOL	Self-Guided Courses by Number						
	2	*3*	*4*	*5*	*6*	*7*	Total
HAMILTON LOCAL SCHOOL DISTRICT	**45**	**43**	**46**	**1**		**1**	**136**
HAMILTON ELEMENTARY SCHOOL	45	43	46	1		1	136
HILLIARD CITY SCHOOL DISTRICT	**4**	**1**	**1**				**6**
BRITTON ELEMENTARY SCHOOL	1						1
HILLIARD HORIZON ELEM SCHOOL	1						1
RIDGEWOOD ELEMENTARY SCHOOL		1	1				2
SCIOTO DARBY ELEMENTARY SCHOOL	1						1
WASHINGTON ELEMENTARY SCHOOL	1						1
LANCASTER CITY SCHOOL DISTRICT	**8**	**6**	**4**	**2**			**20**
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
SANDERSON ELEMENTARY SCHOOL	3	2	1				6
TARHE ELEMENTARY SCHOOL	1						1
THOMAS EWING JR HIGH SCHOOL		1					1
WEST ELEMENTARY SCHOOL	1	1	1				3
PICKERINGTON LOCAL SCHOOL DIST	**69**	**55**	**47**	**32**	**8**	**7**	**218**
DILEY MIDDLE SCHOOL	14	13	12	4			43
FAIRFIELD ELEMENTARY SCHOOL	5	1	1				7
HARMON MIDDLE SCHOOL	9	6	6	4	2	1	28
HERITAGE ELEMENTARY SCHOOL	7	6	4	3			20
PICKERINGTON ELEMENTARY SCHOOL	9	9	2	2			22
PICKERINGTON LOCAL SCHOOL DIST	3	2	1	1			7
SYCAMORE CREEK ELEM SCHOOL	7	5	6	6	2	2	28
TOLL GATE ELEMENTARY SCHOOL	1						1
TOLL GATE MIDDLE SCHOOL	11	10	12	9	1	1	44
TUSSING ELEMENTARY SCHOOL	3	3	3	3	3	3	18
WALNUT TWP LOCAL SCHOOL DIST	**17**	**16**	**16**	**1**			**50**
MILLERSPORT ELEMENTARY SCHOOL	17	16	16	1			50
WORTHINGTON SCHOOL DISTRICT	**6**	**5**	**3**	**2**			**16**
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			4
Grand Total	**158**	**129**	**119**	**38**	**8**	**8**	**460**

Future Professional Development Plans

This coming summer, MIND Research Institute will partner with the Fairfield County Education Services Center to provide informative professional development sessions open to any participating ST Math users during their June Academy. Through our work with districts participating in the Math Matters project several areas of need have become evident. The following areas will serve as the focus for the sessions that MIND will be presenting:

- Facilitating student thinking through the use of ST Math puzzles
- Developing interactive and engaging common core aligned math lessons with ST Math
- Interpretation and analysis of ST Math student, class, and school data
- Integrating the mathematics practice standards into ST Math activities

Teachers and administrators in attendance will receive strategies and information on resources and additional opportunities to share best practices around their implementation of ST Math in their schools.

In addition to the summer sessions that we are offering through the Fairfield County Education Services Center, MIND is committed to building sustainability for the use of ST Math through our Train the Trainer Certification program. We would like to target two participants from each of the Ohio districts participating in the MIND Matters project to participate in this program to acquire our training certification. This three day in-person course has been designed for district and school trainers who plan to deliver the four hour Intro to ST Math Training workshop. These individuals are, ideally, experienced trainers with skills in delivering professional development workshops and also have a solid understanding of mathematics. Trainers participating in the certification program will receive soft copy training materials for their future use and a comprehensive hands-on training covering both the content of ST Math and the structure of the Intro to ST Math workshop itself. As a culmination to the certification process, participants will present portions of the workshop in order to earn certification as an ST Math trainer. Additionally, certified ST Math trainers 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.

Our proposed target for the delivery of this Train the Trainer Certification course is in the May/June timeframe. We will begin to discuss the identification of participants for this program with key contacts from each of the districts participating in the Math Matters project. We hope that identified trainers will, by that time, have had the benefit of a wealth of exposure to the implementation of ST Math over the course of this school year. Upon certification as an ST Math trainer they will be ready to support their school or districts needs in training additional staff on the effective integration of ST Math's visual approach to teaching math concepts.

Section 3 – Fairfield County Schools

Fairfield County ESC – Summary

Fairfield County ESC currently has 89 active students on the program with 3.1% 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 at that site.

These teachers had a late start this year. The initial training did not occur until November 11, 2014. During the training, teachers were given an overview of the program. Because all of the teachers work with Special Education students, there were many questions and discussion around the appropriate placement of their students in grade level curriculum. The teachers were encouraged to begin all of their students at their currently assigned grade level. For students that struggle at their current grade level placement, teachers were encouraged to test-drive the lower grade level games to help them in determining the most appropriate placement for their students.

In addition to the grade level placements, there were lots of discussions on how to help support students that are non-verbal. Strategies like drawing pictures and using manipulatives were shared to help students express their knowledge. The Education Consultant will research and identify additional strategies that can be used to support the students. The follow-up training will include strategies and best practices that are working across districts to support students of all abilities. Their follow-up training is scheduled for January 13, 2015.

Challenges
The teachers are struggling with strategies to help their special needs students. They are in need of strategies to keep the students motivated. Some of them get frustrated when they struggle on the puzzles and just want to quit. Other challenges include supporting students who struggle with learning new concepts and students who are non-verbal. The Education Consultant has shared several strategies for helping struggling students including, use of manipulatives, teacher mode, small group instruction with ST Math and the use of reflection questions.

Focus Areas
A follow-up training has been scheduled for January 13, 2015. During this training the teachers will review their data and identify the areas where students need additional support. They will engage in discussions around strategies for helping struggling students. The teachers will also discuss how to bring ST Math games into the classroom. The specific focus will be on how to engage students in small group discussions around ST Math games that meet their needs. Throughout the training an emphasis on helping students connect math concepts to appropriate vocabulary will be shared. Strategies to specifically provide an extra level of support to special education students will also be shared.

Next Steps
The Education Consultant will work with the Fairfield County ESC representatives to plan additional support that is needed.

ST Math Progress Data

District ST Math Progress by School

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Fairfield County ESC	**89**	**8.3**	**3.1**	**0.4**
Fairfield County ESC	89	8.3	3.1	0.4

School ST Math Progress by Grade

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Fairfield County ESC	**89**	**8.3**	**3.1**	**0.4**
Kindergarten	36	5.4	2.5	0.5
First Grade	20	13.0	6.5	0.5
Second Grade	5	18.6	5.3	0.3
Third Grade	8	4.9	1.2	0.2
Fourth Grade	5	8.0	1.7	0.2
Fifth Grade	1	3.0	4.3	1.4
Seventh Grade MSS	3	17.0	0.6	0.0
Eighth Grade MSS	1	19.0	0.6	0.0
High School Intervention	10	4.0	0.3	0.1

MIND Research Institute Event History

Event Date	District/School	Event Type
11/11/2014	02089155 FAIRFIELD CO ED SERVICE CENTER	Intro to ST Math Training Part 1

Lancaster currently has 3,675 active students on the program with 9.5% average syllabus progress. Each school is currently utilizing the program with varied implementation. The district used an informal train the trainer model over two trainings. The first training held on 9/9/14 included the building leads, representatives from each school, and the Director of Human Resources (who is the district lead for the program). The building lead teachers were tasked with going back to their schools and training the other teachers in their buildings on the system.

The second training held on 10/31/14 included the Title one teachers from each school. This training involved teachers who had been using the program with their students. Since these teachers had already been using the program, the Education Consultant modified the training to focus on their specific needs. The modified training focused on the purpose and neuroscience behind ST Math, strategies for supporting struggling students, reading the various reports and using the data to plan supports and interventions for students. The training was very interactive and several strategies were shared with the teachers.

In working with the district lead through the site visits and phone conferences, it was clear that additional training was needed. Three additional trainings were scheduled for after school to make it more accessible for teachers. The target audience for these trainings was teachers who are using the program, but have not yet gone through a formal training. The trainings were held on 12/02/14, 12/09/14 and 12/16/14. The focus of the trainings was to provide the teachers an overview of ST Math and an understanding of how the program works to develop student understanding in mathematics. During the training, teachers were able to review their data and identify strategies to support students. Additionally, teachers were provided strategies for supporting struggling students, engaged in utilizing the teacher mode function in ST Math, and reviewed facilitating questions used to promote student thinking.

In addition to the trainings, there have been eleven site visits conducted in the schools to provide onsite support. The main focus of the site visits has been to review data and ensure teachers and administrators understand how to access the reports. Many of the site visits were conducted in classrooms where the Education Consultant worked with the teachers to model interaction with the students while they are engaged in ST Math and how to use the facilitating questions to support students who are struggling.

Challenges
The district has been engaged a slow roll-out because they have had many technical issues with their network. They also do not have as many devices available as they would like to support the implementation of the program. They did receive Chrome Books through the program, but only a few have been deployed to the high school. The remaining Chrome Books are in the hands of the district technology department prior to being sent out to schools. There is not yet an anticipated deployment date but the district lead and the district technology department are working collaboratively to set up the Chrome Books and get them out to the schools.

Focus Areas
For the district we are focusing on providing continual support. Data meetings are being set up at individual schools to ensure all principals are aware of how to read the data reports and understand strategies to help teachers support students. The meetings will take place over the next couple of months. In addition to the data meetings additional site visits will be scheduled. As the representatives at MIND continue to provide support to the teachers and administrators a few key topics have been identified as areas of focus. These areas were determined based off of feedback from teachers, questions and conversations as well as reviewing the data. In continued work with the teachers, focus will be placed on supporting teachers with strategies for facilitating student thinking on games (particularly, games the teacher has not seen); providing game analysis to connect ST Math to the learning in the classroom; developing an understanding of productive struggle; providing strategies to support student reflection on their own thinking and making mathematical practices visible through questioning.

Next Steps

The district lead is working with the Education Consultant to schedule additional trainings to further support teachers. The district will survey the teachers to identify their needs and the training will be tailored to address those needs.

ST Math Progress Data

District ST Math Progress by School

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Lancaster City Schools	**3675**	**15.4**	**9.5**	**0.6**
Cedar Heights Elementary School	342	13.3	8.2	0.6
East Elementary School	365	16.6	10.5	0.6
General Sherman Junior High School	590	8.7	2.2	0.3
Lancaster Senior High School	5	4.2	0.0	0.0
Medill Elementary School	405	18.0	11.9	0.7
Sanderson Elementary School	287	20.5	15.1	0.7
South Elementary School	251	20.1	10.2	0.5
Tallmadge Elementary School	274	22.3	13.9	0.6
Tarhe Elementary School	427	10.1	8.9	0.9
Thomas Ewing Junior High School	267	10.2	1.5	0.2
West Elementary School - OH	462	20.6	15.5	0.8

School ST Math Progress by Grade

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Cedar Heights Elementary	**342**	**13.3**	**8.2**	**0.6**
Kindergarten	23	2.4	5.9	2.5
First Grade	73	7.8	5.6	0.7
Second Grade	77	10.4	5.3	0.5
Third Grade	63	21.9	15.4	0.7
Fourth Grade	54	20.7	9.3	0.4
Fifth Grade	52	11.9	7.0	0.6

	Students	Lab Logins	Avg Progress	Progress/Lab Login
East Elementary	**365**	**16.6**	**10.5**	**0.6**
Kindergarten	57	5.6	9.6	1.7
First Grade	58	11.4	6.7	0.6
Second Grade	71	27.5	13.2	0.5
Third Grade	69	13.8	9.1	0.7
Fourth Grade	63	27.2	15.9	0.6
Fifth Grade	47	9.5	7.0	0.7

	Students	Lab Logins	Avg Progress	Progress/Lab Login
General Sherman Junior High	**590**	**8.7**	**2.2**	**0.3**
Sixth Grade MSS	205	5.8	0.8	0.1
Seventh Grade MSS	229	12.3	4.0	0.3
Eighth Grade MSS	156	7.2	1.4	0.2

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Lancaster Senior High	**5**	**4.2**	**0.0**	**0.0**
High School Intervention	5	4.2	0.0	0.0

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Medill Elementary	**405**	**18.0**	**11.9**	**0.7**
Kindergarten	51	13.0	14.7	1.1
First Grade	64	7.8	6.4	0.8
Second Grade	53	13.0	7.0	0.5
Third Grade	72	42.7	24.3	0.6
Fourth Grade	83	11.8	8.9	0.8
Fifth Grade	82	16.8	9.8	0.6

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Sanderson Elementary	**287**	**20.5**	**15.1**	**0.7**
Kindergarten	43	12.7	17.8	1.4
First Grade	42	9.3	7.9	0.9
Second Grade	62	26.5	16.7	0.6
Third Grade	54	17.9	9.9	0.6
Fourth Grade	45	28.9	13.0	0.5
Fifth Grade	41	25.5	26.5	1.0

	Students	Lab Logins	Avg Progress	Progress/Lab Login
South Elementary	**251**	**20.1**	**10.2**	**0.5**
Kindergarten	14	1.1	0.5	0.5
First Grade	50	22.4	15.7	0.7
Second Grade	44	27.0	12.1	0.4
Third Grade	62	14.4	7.8	0.5
Fourth Grade	33	44.5	16.7	0.4
Fifth Grade	48	7.4	4.4	0.6

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Tallmadge Elementary	**274**	**22.3**	**13.9**	**0.6**
Kindergarten	40	8.1	9.5	1.2
First Grade	50	10.1	10.4	1.0
Second Grade	42	32.1	17.2	0.5
Third Grade	47	28.0	16.5	0.6
Fourth Grade	49	31.6	14.3	0.5
Fifth Grade	46	23.1	15.4	0.7

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Tarhe Elementary	**427**	**10.1**	**8.9**	**0.9**
Kindergarten	72	9.6	14.0	1.5
First Grade	83	8.8	9.5	1.1
Second Grade	69	11.4	9.6	0.8
Third Grade	73	12.2	9.0	0.7
Fourth Grade	60	13.4	8.2	0.6
Fifth Grade	70	6.0	2.6	0.4

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Thomas Ewing Junior High	**267**	**10.2**	**1.5**	**0.2**
Sixth Grade MSS	89	10.8	1.6	0.1
Seventh Grade MSS	28	18.3	1.8	0.1
Eighth Grade MSS	150	8.3	1.5	0.2

	Students	Lab Logins	Avg Progress	Progress/Lab Login
West Elementary	**462**	**20.6**	**15.5**	**0.8**
Kindergarten	101	21.8	22.0	1.0
First Grade	83	15.2	15.4	1.0
Second Grade	77	32.5	23.0	0.7
Third Grade	71	13.7	7.4	0.5
Fourth Grade	57	24.4	13.4	0.5
Fifth Grade	73	16.1	8.4	0.5

MIND Research Institute Event History

Event Date	District/School	Event Type
9/9/2014	LANCASTER CITY SCHOOL DISTRICT	Intro to ST Math Training Part 1
10/21/2014	00799172 LANCASTER CITY SCHOOL DISTRICT : WEST ELEMENTARY SCHOOL	Site Visit
10/21/2014	00799081 LANCASTER CITY SCHOOL DISTRICT : MEDILL ELEMENTARY SCHOOL	Site Visit
10/21/2014	00799158 LANCASTER CITY SCHOOL DISTRICT : THOMAS EWING JR HIGH SCHOOL	Site Visit
10/31/2014	LANCASTER CITY SCHOOL DISTRICT	Intro to ST Math Training Part 1
11/11/2014	00799110 LANCASTER CITY SCHOOL DISTRICT : SOUTH ELEMENTARY SCHOOL	Site Visit
11/11/2014	00799146 LANCASTER CITY SCHOOL DISTRICT : TARHE ELEMENTARY SCHOOL	Site Visit
11/11/2014	00799055 LANCASTER CITY SCHOOL DISTRICT : EAST ELEMENTARY SCHOOL	Site Visit
11/11/2014	00799108 LANCASTER CITY SCHOOL DISTRICT : SANDERSON ELEMENTARY SCHOOL	Site Visit
11/25/2014	00799043 LANCASTER CITY SCHOOL DISTRICT : CEDAR HEIGHTS ELEM SCHOOL	Data Meeting
12/9/2014	00799158 LANCASTER CITY SCHOOL DISTRICT : THOMAS EWING JR HIGH SCHOOL	Intro to ST Math Training Part 2
12/9/2014	00799134 LANCASTER CITY SCHOOL DISTRICT : TALLMADGE ELEMENTARY SCHOOL	Site Visit
12/9/2014	00799043 LANCASTER CITY SCHOOL DISTRICT : CEDAR HEIGHTS ELEM SCHOOL	Site Visit
1/13/2015	00799067 LANCASTER CITY SCHOOL DISTRICT : GENERAL SHERMAN JR HIGH SCHOOL	Data Meeting
1/13/2015	00799172 LANCASTER CITY SCHOOL DISTRICT : WEST ELEMENTARY SCHOOL	Data Meeting

Liberty Union currently has 215 active students on the program with average of 4.7% syllabus progress. There have been a total of 4 half-day trainings provided to the district. The first two focused on the importance of ST Math, how to get their students on the games, understanding how content is scaffold in the games, tips regarding password training, and how to monitor student progress. The second two trainings focused on interpretation of ST Math Reports, effective facilitation strategies with struggling students, and an overview of the optional capability to modify the sequence of the ST Math curriculum.

There have been four additional visits conducted in Liberty Union. During the site visits, teachers and students were provided a wide variety of support. The Education Consultant modeled for the teachers how to interact with the students while they are engaged in ST Math through the use of facilitating questions. Teacher-mode and on-screen indicators were also modeled for the teachers. During the site visits, teachers are shown how to access their data and use the information to support students in developing the math concepts.

Challenges
The school continues to experience technology issues. The technology teacher has done a great job of working to provide teachers support and develop a system for ensuring that the staff members have access to devices. The school received Chrome Books as part of the grant. The MIND Technology Team helped provided information to the district as they were troubleshooting through their problems. Despite the technology challenges, the teachers are working hard on scheduling ST Math time. The principal and curriculum director have taken a very supportive and hands-on role in implementing ST Math.

Focus Areas
A data meeting was held with the principal and curriculum director on 12/19/14. The Education Consultant reviewed the data reports with the principal. A progress tracker was created to monitor the school's progress in achieving weekly goals for syllabus progress. In reviewing the data, the principal shared the need for the teachers to have additional support in connecting the use of ST Math to their Eureka Curriculum that is utilized in the school. The Education Consultant provided the curriculum director the name of a district that is also using ST Math and Eureka to provide any insight.

To further support the teachers, two additional trainings will be scheduled. These trainings will focus on helping support teachers in connecting the Eureka Math Curriculum and ST Math; facilitating student thinking during the games; and utilizing their reports. In addition to the trainings, three site visits will be scheduled to provide in class support for the teachers. The site visits will be held over three months to give the teachers time to put in to practice the strategies that they are learning.

The principal and curriculum director will be setting up a training framework for the teachers. They will be asked to complete all 7 self-guided courses as well as two webinars. This will give the teachers the additional training that they will need to support the implementation.

Next Steps
The Education Consultant will work with the principal and curriculum director to schedule the dates for the additional trainings and site visits.

ST Math Progress Data

District ST Math Progress by School

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Liberty Union-Thurston SD	**215**	**6.9**	**4.7**	**0.7**
Liberty Elementary	215	6.9	4.7	0.7

School ST Math Progress by Grade

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Liberty Elementary	**215**	**6.9**	**4.7**	**0.7**
Kindergarten	1	2.0	3.7	1.9
Second Grade	1	12.0	12.6	1.1
Third Grade	79	5.1	3.3	0.7
Fourth Grade	60	8.8	6.6	0.8
Fifth Grade	16	8.4	7.9	0.9
Sixth Grade	58	7.1	3.7	0.5

MIND Research Institute Event History

Event Date	District/School	Event Type
9/16/2014	01823269 LIBERTY UNION-THURSTN SCH DIST : LIBERTY UNION ELEMENTARY SCH	Implementation Planning Meeting
9/23/2014	01823269 LIBERTY UNION-THURSTN SCH DIST : LIBERTY UNION ELEMENTARY SCH	Intro to ST Math Training Part 1
9/23/2014	01823269 LIBERTY UNION-THURSTN SCH DIST : LIBERTY UNION ELEMENTARY SCH	Intro to ST Math Training Part 1
10/16/2014	01823269 LIBERTY UNION-THURSTN SCH DIST : LIBERTY UNION ELEMENTARY SCH	Site Visit
10/21/2014	01823269 LIBERTY UNION-THURSTN SCH DIST : LIBERTY UNION ELEMENTARY SCH	Site Visit
10/30/2014	01823269 LIBERTY UNION-THURSTN SCH DIST : LIBERTY UNION ELEMENTARY SCH	Site Visit
11/13/2014	01823269 LIBERTY UNION-THURSTN SCH DIST : LIBERTY UNION ELEMENTARY SCH	Site Visit
12/4/2014	01823269 LIBERTY UNION-THURSTN SCH DIST : LIBERTY UNION ELEMENTARY SCH	Intro to ST Math Training Part 2
12/4/2014	01823269 LIBERTY UNION-THURSTN SCH DIST : LIBERTY UNION ELEMENTARY SCH	Intro to ST Math Training Part 2
12/18/2014	01823269 LIBERTY UNION-THURSTN SCH DIST : LIBERTY UNION ELEMENTARY SCH	Data Meeting

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Pickerington currently has 4,778 active students on the program with 15.2% average syllabus progress. Each elementary and middle school is currently utilizing the program with varied implementation. The district did an informal train the trainer model having three representatives from each school attend. Following the trainings, information was sent out to all the participants reminding them of the Self-Guided Courses, the resources on the Teacher Resource Site and reminders of how to get students started on the program.

Further support has been provided to schools in the district through phone conferences and onsite support. There have been eighteen additional visits or meetings conducted in schools across the district. During the site visits, teachers and students were provided a wide variety of support depending on need. Several site visits focused on providing support to teachers in understanding how to interact with the students while they are engaged in ST Math and how to use the facilitating questions to support students who are struggling. Visits also included a review for teachers in how to access their data and use the information to support students in developing the math concepts.

Challenges
The district is implementing new math curriculum to support the teaching of the new standards. With the new curriculum, teachers are struggling to determine the best way to schedule ST Math and still maintain the required 90 minutes of math instruction for the new curriculum. In addition to the new curriculum and ST Math the intervention teachers are also implementing another intervention program which requires an additional time commitment. The challenge for teachers is how to manage the various curriculums and determine how they best utilize all of the available resources. The Education Consultant has been working with some of the schools to help them see how ST Math can support the other programs they are using.

One of the middle schools has been very creative in scheduling and in helping the various programs work together. This school has been referred to as a model by MIND's Education Consultant for the other schools in the district that are facing similar challenges.

Focus Areas
For the district we are focusing on providing continual support. Additional Data Meetings are being set up to ensure all principals are aware of how to read the data reports and understand strategies to help teachers support students. In continued work with the teachers, the focus will be on supporting teachers with strategies for facilitating student thinking versus teaching the games. In future trainings topics will include the importance of productive struggle and discussions on strategies to help students reflect on their own thinking. Digging deeper into the games through analysis will help teachers make connections to the curriculum that they are teaching and provide opportunities to discuss how to make the mathematical practices visible through questioning.

Next Steps
The Education Consultant will continue to work with the individual schools to provide resources and support to meet their needs. Conversations will be held at the district level to discuss how to creatively use the Self-guided Courses to provide additional support for the majority of classroom teachers.

ST Math Progress Data

District ST Math Progress by School

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Pickerington Local SD	**4778**	**19.3**	**15.2**	**0.8**
Diley Middle School	585	38.4	24.9	0.6
Fairfield Elementary School	453	9.7	9.1	0.9
Harmon Middle School	524	22.8	13.9	0.6
Heritage Elementary School	340	28.5	25.4	0.9
Pickerington Elementary School	449	14.3	14.9	1.0
Sycamore Creek Elementary	633	13.0	11.3	0.9
Toll Gate Elementary	487	17.1	15.4	0.9
Toll Gate Middle School	366	13.0	10.6	0.8
Tussing Elementary School	512	20.4	17.0	0.8
Violet Elementary School	429	12.8	9.9	0.8

School ST Math Progress by Grade

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Diley Middle	**585**	**38.4**	**24.9**	**0.6**
Fifth Grade	279	40.8	25.0	0.6
Sixth Grade	306	36.2	24.9	0.7

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Fairfield Elementary	**453**	**9.7**	**9.1**	**0.9**
Kindergarten	74	9.5	16.0	1.7
First Grade	99	6.8	5.9	0.9
Second Grade	101	5.9	4.9	0.8
Third Grade	83	17.3	15.4	0.9
Fourth Grade	96	10.4	5.8	0.6

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Harmon Middle	**524**	**22.8**	**13.9**	**0.6**
Fifth Grade	248	16.5	13.4	0.8
Sixth Grade	276	28.4	14.3	0.5

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Heritage Elementary	**340**	**28.5**	**25.4**	**0.9**
Kindergarten	54	28.8	34.3	1.2
First Grade	73	29.2	28.4	1.0
Second Grade	65	29.2	23.0	0.8
Third Grade	84	31.1	25.3	0.8
Fourth Grade	64	23.5	17.2	0.7

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Pickerington Elementary	**449**	**14.3**	**14.9**	**1.0**
Kindergarten	75	8.2	10.9	1.3
First Grade	103	9.8	14.2	1.4
Second Grade	84	18.7	16.7	0.9
Third Grade	87	18.2	17.5	1.0
Fourth Grade	100	16.5	14.8	0.9

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Sycamore Creek	**633**	**13.0**	**11.3**	**0.9**
Kindergarten	119	3.5	6.4	1.8
First Grade	128	13.1	12.7	1.0
Second Grade	118	21.9	20.1	0.9
Third Grade	133	8.1	5.8	0.7
Fourth Grade	135	18.5	12.1	0.7

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Toll Gate	**487**	**17.1**	**15.4**	**0.9**
Kindergarten	1	26.0	46.9	1.8
First Grade	119	9.4	13.3	1.4
Second Grade	133	16.8	13.5	0.8
Third Grade	123	24.8	20.5	0.8
Fourth Grade	111	16.9	13.9	0.8

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Toll Gate Middle	**366**	**13.0**	**10.6**	**0.8**
Fifth Grade	184	12.6	10.0	0.8
Sixth Grade	182	13.5	11.3	0.8

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Tussing Elementary	**512**	**20.4**	**17.0**	**0.8**
Kindergarten	83	13.8	17.8	1.3
First Grade	116	13.1	17.3	1.3
Second Grade	113	30.0	17.5	0.6
Third Grade	97	23.2	16.2	0.7
Fourth Grade	103	20.9	16.2	0.8

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Violet Elementary	**429**	**12.8**	**9.9**	**0.8**
Kindergarten	79	8.7	10.3	1.2
First Grade	73	10.4	6.9	0.7
Second Grade	93	8.8	6.8	0.8
Third Grade	93	11.6	12.8	1.1
Fourth Grade	91	23.5	12.1	0.5

MIND Research Institute Event History

Event Date	District/School	Event Type
10/16/2014	11456509 PICKERINGTON LOCAL SCHOOL DIST : TOLL GATE ELEMENTARY SCHOOL	Intro to ST Math Training Part 1
10/21/2014	04917649 PICKERINGTON LOCAL SCHOOL DIST : DILEY MIDDLE SCHOOL	Site Visit
10/21/2014	00799237 PICKERINGTON LOCAL SCHOOL DIST : PICKERINGTON ELEMENTARY SCHOOL	Site Visit
10/29/2014	00799251 PICKERINGTON LOCAL SCHOOL DIST : VIOLET ELEMENTARY SCHOOL	Intro to ST Math Training Part 1
10/30/2014	04917649 PICKERINGTON LOCAL SCHOOL DIST : DILEY MIDDLE SCHOOL	Site Visit
11/5/2014	04917649 PICKERINGTON LOCAL SCHOOL DIST : DILEY MIDDLE SCHOOL	Site Visit
11/5/2014	00799237 PICKERINGTON LOCAL SCHOOL DIST : PICKERINGTON ELEMENTARY SCHOOL	Site Visit
11/12/2014	02042987 PICKERINGTON LOCAL SCHOOL DIST : HARMON MIDDLE SCHOOL	Data Meeting,Site Visit
11/12/2014	04938057 PICKERINGTON LOCAL SCHOOL DIST : HERITAGE ELEMENTARY SCHOOL	Site Visit
11/12/2014	00799251 PICKERINGTON LOCAL SCHOOL DIST : VIOLET ELEMENTARY SCHOOL	Site Visit
11/20/2014	04917649 PICKERINGTON LOCAL SCHOOL DIST : DILEY MIDDLE SCHOOL	Data Meeting
11/20/2014	04917649 PICKERINGTON LOCAL SCHOOL DIST : DILEY MIDDLE SCHOOL	Site Visit
11/21/2014	11456511 PICKERINGTON LOCAL SCHOOL DIST : TOLL GATE MIDDLE SCHOOL	Data Meeting
12/3/2014	04917649 PICKERINGTON LOCAL SCHOOL DIST : DILEY MIDDLE SCHOOL	Site Visit
12/9/2014	04917649 PICKERINGTON LOCAL SCHOOL DIST : DILEY MIDDLE SCHOOL	Site Visit
12/16/2014	04917649 PICKERINGTON LOCAL SCHOOL DIST : DILEY MIDDLE SCHOOL	Site Visit
1/8/2015	04449472 PICKERINGTON LOCAL SCHOOL DIST : TUSSING ELEMENTARY SCHOOL	Data Meeting
1/8/2015	04938057 PICKERINGTON LOCAL SCHOOL DIST : HERITAGE ELEMENTARY SCHOOL	Data Meeting
1/8/2015	00799251 PICKERINGTON LOCAL SCHOOL DIST : VIOLET ELEMENTARY SCHOOL	Data Meeting
1/9/2015	02126131 PICKERINGTON LOCAL SCHOOL DIST : FAIRFIELD ELEMENTARY SCHOOL	Data Meeting

Walnut Township - Millersport currently has 309 active students on the program with 14.5% average syllabus progress. The Principal and staff at Millersport have been very proactive and well planned from the start. They have established a wonderful culture in support of the implementation of ST Math. There are ST Math Bulletin Boards on display throughout the halls which highlight the progress that classes are making with the program. Each grade level has developed a way to celebrate their progress.

The staff has worked very hard to put a schedule in place for the use of ST Math. The schedule details the date and time for classes to be in the lab or to have access to the Chrome Book cart. In addition, the schedule provides for extra time and opportunities that the lab or Chrome Book cart can be scheduled for additional use. The technology teacher is providing onsite support to the teachers and the students in utilizing the program. Resources have been attached to the cart (facilitating questions, how to put students on games, etc.) for easy teacher access. Posters that outline facilitating questions and a general problem solving strategy for ST Math puzzles are prominent in the lab for easy teacher reference. The school has been very intentional in making sure they have a strong schedule and availability of resources to support the implementation of ST Math.

The Millersport staff completed their initial training online. Two site visits were conducted at Millersport Elementary in the month of October. During the site visits, the Education Consultant worked with the technology teacher and the principal in answering their questions and ensuring a smooth implementation. The Education Consultant also supported teachers in working with their students in the lab. The kindergarten students were taught how to access the games and given tips as they went through the password training. Teachers were shown how to retrain their students on the password if needed. Tips on supporting student thinking through facilitated questions were shared with teachers. They were scheduled to receive a more detailed training in December after they had had the opportunity to work with the students on the system. This training, which was held on December 3, 2014, included information on understanding how to use the on screen indicators to monitor student performance. Teachers were logged into the system and reviewed their data. The alert report was pointed out to teachers and strategies for addressing challenges the students were having were shared. In addition, the use of facilitated questions to support struggling students was discussed. Beginning in January, teachers will begin the second set of Self-Guided courses (5-7) to complete their training.

Challenges
The district is having some financial struggles. The district is beginning budget cuts this January. This has created an atmosphere of uncertainty in regards to stability of positions. The position of the technology coordinator who has been instrumental in the implementation is likely to lose her position at the end of the school year. The administrator and technology teacher have been doing a great job in being pro-active and providing support to the teachers. The teachers are working very hard to implement the program and are doing well in spite of the challenges that the district is faced with.

Focus Areas
A data meeting was held with the principal on 12/18/14. The Education Consultant reviewed the data reports with the principal. A progress tracker was created to monitor the school's progress in achieving weekly goals for syllabus progress. In reviewing the data the principal determined that the teachers have not had enough opportunity to put into place the new learning from the onsite training that was held earlier in the month. In January the teachers will begin working through the ST Math self-guided courses to complete their training. Once this is done, they will have a better understanding of what additional training will look like.

Next Steps
The Education Consultant will continue to send information and resources to support continual usage of ST Math. Additional support will be determined once the teachers complete the self-guided courses.

ST Math Progress Data

District ST Math Progress by School

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Walnut Township SD	**309**	**18.4**	**14.5**	**0.8**
Millersport Elementary School	309	18.4	14.5	0.8

School ST Math Progress by Grade

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Millersport Elementary	**309**	**18.4**	**14.5**	**0.8**
Kindergarten	42	13.0	17.6	1.4
First Grade	40	14.0	18.8	1.3
Second Grade	52	12.6	13.5	1.1
Third Grade	37	17.7	15.4	0.9
Fourth Grade	46	19.5	9.2	0.5
Fifth Grade	45	22.5	10.3	0.5
Sixth Grade	47	29.3	17.5	0.6

MIND Research Institute Event History

Event Date	District/School	Event Type
10/21/2014	00799287 WALNUT TWP LOCAL SCHOOL DIST : MILLERSPORT ELEMENTARY SCHOOL	Site Visit
10/27/2014	00799287 WALNUT TWP LOCAL SCHOOL DIST : MILLERSPORT ELEMENTARY SCHOOL	Site Visit
12/3/2014	00799287 WALNUT TWP LOCAL SCHOOL DIST : MILLERSPORT ELEMENTARY SCHOOL	Site Visit
12/18/2014	00799287 WALNUT TWP LOCAL SCHOOL DIST : MILLERSPORT ELEMENTARY SCHOOL	Data Meeting

Section 4 – Franklin County Schools

Columbus City Schools – Summary

Columbus currently has 957 active students on the program with 3.1% average syllabus progress. The district is implementing the program through the ESL department. There are 41 schools in the district that were identified within the grant. The goal is for the ESL Teaching Assistants at the identified schools to be responsible for implementing the program within the ESL classes. Of the 41 schools eight of them have been designated as year 2 starts for the program. To make the program run effectively, the district ESL department has been diligently working to select Teaching Assistants at the remaining schools to lead the implementation at their schools.

Training for the ESL Teaching Assistants was divided into three cohorts. The first cohort was trained on 9/18/14; the second on 10/9/14; and the third on 11/13/14. All of these trainings focused on the following five key areas: understanding the neuroscience behind ST Math; analyzing a game to see how the concepts are scaffold for student understanding; learning how to get students on the games; learning how to read the reports/on screen indicators to monitor student progress; and understanding the importance of the teacher role in facilitating student connections to mathematical concepts in ST Math. In addition, the Education Consultant shared several strategies to support language development and connect vocabulary to the math content.

Follow-up trainings have been scheduled for 2/4/15, 2/11/15 and 2/12/15. The representatives from MIND met with the district ESL department and determined a planned focus for these follow-up trainings. The district has a literacy focus and would like connections to that focus to be addressed in the training. The ESL department has requested a greater focus on reading and writing as part of the math training with emphasis on how ST Math can support their literacy initiatives. In addition, the ESL Teaching Assistants who are the target audience need math content development. The request is to also include this in the upcoming training. As a result, the regular follow-up training will be modified to include game analysis, which will enable the Education Consultant to focus on the math content and connect it to language development. The goal will be to foster rich discussions and share strategies to help connect ST Math to their goals.

In addition to the trainings, there have been eighteen site visits conducted in Columbus City Schools. During the site visits, teachers and students were provided a wide variety of strategies to use to support struggling students. Several of the site visits involved additional training for the ESL Teaching Assistants and training of additional staff. As students began using ST Math other teachers in the building became interested in using this resource with their non-ESL student population.

In working with the district ESL department, it is apparent that outside of the follow-up trainings, additional support is needed specifically in the area of understanding math content, facilitating student thinking and reading data reports. While Teaching Assistants will continued to be supported through site visits, the representatives at MIND will conduct a follow-up meeting after the February trainings to determine the additional training offerings for the district.

Challenges
The district focus for implementation is within the ESL classes utilizing the Teaching Assistants to drive the use of ST Math. This is a challenge because the majority of these assistants are in need of math content training to help support them in working with the students. In addition, some of the schools use a "push-in" model, which limits the availability of the ESL students to use the program within the ESL classroom.

To help support the district in implementing ST Math, the MIND consultants discussed with the district the need to create 2 groups of schools to focus on. The other schools in the district will still receive support, but the focus on a smaller number of schools will serve as a baseline of progress with ST Math. For this small group of schools,

there will be focused support to help with the fidelity of the implementation. The district ESL department is reviewing the schools to identify a couple of feeder patterns that will comprise these focus schools.

The second group of schools will be priority schools; meaning that they are having implementation difficulty and are in need of creative ways to maximize their use of the program. These schools will be (Mifflin HS, Avalon and Columbus Global Academy). Like the focus schools, they too will receive additional support. This will allow the identification of creative strategies and structures to support ST Math implementation.

Focus Areas
For the district we are focusing on providing continual support. Data meetings are being set up to ensure all principals are aware of how to read the data reports and understand strategies to help teachers support students. In continued work with the Teaching Assistants several strategies will be shared to support the district goals of increasing reading and writing skills and their connections with mathematics while keeping in alignment with the unique visual, language free approach that ST Math uses for developing mathematics concepts. Reading strategies such as "Think Aloud" will be shared as a way to make students aware of the way they are thinking about the mathematics in the puzzle. Additional reading strategies will be used to help students reflect on their own thinking and making the mathematical practices visible through questioning.

Next Steps
The Education Consultant will continue to meet with the district ESL Department to provide continual support in implementing the program. Strategies for supporting the literacy initiative in the district while students are engaged in ST Math are being identified by the Education Consultant and district lead. The Education Consultant and district lead will set up a regular meeting schedule to monitor progress of ST Math use in the schools and troubleshoot the challenges

ST Math Progress Data

District ST Math Progress by School

	Students	*Lab Logins*	*Avg Progress*	*Progress/Lab Login*
Columbus City Schools	**957**	**7.9**	**3.1**	**0.4**
Broadleigh Elementary School	52	26.9	12.2	0.5
Burroughs Elementary	16	1.3	0.1	0.1
Cassady Alternative Elementary School	69	21.9	9.5	0.4
Columbus Global Academy	59	2.8	0.2	0.1
Eakin Elementary School	26	3.5	1.3	0.4
East Linden Elementary School	38	5.0	1.8	0.4
Gables Elementary School	9	2.1	1.5	0.7
Hubbard Mastery School	34	2.8	1.4	0.5
Innis Elementary School	87	8.3	4.6	0.6
Johnson Park Middle School	53	9.1	1.5	0.2
Medina Middle School	29	4.3	0.6	0.1
Mifflin Alternative Middle School	97	9.4	1.8	0.2
Mifflin High School	65	5.7	1.0	0.2
North Linden Elementary School	28	2.0	0.2	0.1
Northland High School	34	6.3	2.5	0.4
Northtowne Elementary School	61	2.3	0.4	0.2
Salem Elementary School	79	7.5	5.4	0.7
Siebert Elementary School	9	1.2	0.0	0.0

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Valley Forge Elementary School	91	4.1	2.6	0.6
Wedgewood Middle School	20	3.0	0.0	0.0
Woodcrest Elementary School	1	2.0	0.0	0.0

School ST Math Progress by Grade

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Broadleigh Elementary	**52**	**26.9**	**12.2**	**0.5**
Second Grade	2	26.5	4.4	0.2
Third Grade	20	26.4	12.5	0.5
Fourth Grade	11	32.2	10.3	0.3
Fifth Grade	19	24.5	13.7	0.6

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Burroughs Elementary	**16**	**1.3**	**0.1**	**0.1**
Second Grade	5	1.0	0.0	0.0
Third Grade	3	1.0	0.0	0.0
Fourth Grade	5	1.8	0.5	0.3
Fifth Grade	3	1.3	0.0	0.0

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Cassady Alternative Elementary	**69**	**21.9**	**9.5**	**0.4**
Second Grade	28	12.3	3.4	0.3
Third Grade	9	29.1	7.4	0.3
Fourth Grade	20	12.3	5.8	0.5
Fifth Grade	12	54.8	31.6	0.6

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Columbus Global Academy	**59**	**2.8**	**0.2**	**0.1**
Eighth Grade MSS	45	3.4	0.3	0.1
High School Intervention	14	1.1	0.0	0.0

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Eakin Elementary	**26**	**3.5**	**1.3**	**0.4**
First Grade	1	1.0	0.0	0.0
Second Grade	6	6.8	2.0	0.3
Third Grade	7	1.4	0.9	0.6
Fourth Grade	6	3.5	0.8	0.2
Fifth Grade	6	3.2	1.7	0.5

	Students	Lab Logins	Avg Progress	Progress/Lab Login
East Linden Elementary	**38**	**5.0**	**1.8**	**0.4**
Kindergarten	1	2.0	0.0	0.0
Third Grade	12	3.5	1.1	0.3
Fourth Grade	17	5.6	1.8	0.3
Fifth Grade	8	6.5	3.3	0.5

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Gables Elementary	**9**	**2.1**	**1.5**	**0.7**
First Grade	9	2.1	1.5	0.7

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Hubbard Mastery	**34**	**2.8**	**1.4**	**0.5**
Kindergarten	6	1.5	0.5	0.3
First Grade	5	1.6	0.6	0.4
Second Grade	7	2.6	0.9	0.4
Third Grade	7	4.1	4.0	1.0
Fourth Grade	5	4.2	1.2	0.3
Fifth Grade	4	2.3	0.6	0.2

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Innis Elementary	**87**	**8.3**	**4.6**	**0.6**
Kindergarten	8	5.5	9.7	1.8
First Grade	30	4.8	3.3	0.7
Second Grade	7	2.4	0.7	0.3
Third Grade	13	11.5	7.4	0.6
Fourth Grade	16	16.1	5.1	0.3
Fifth Grade	13	8.7	3.3	0.4

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Johnson Park Middle	**53**	**9.1**	**1.5**	**0.2**
Sixth Grade MSS	24	9.3	2.0	0.2
Seventh Grade MSS	17	13.2	1.8	0.1
Eighth Grade MSS	12	3.1	0.1	0.0

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Medina Middle	**29**	**4.3**	**0.6**	**0.1**
Sixth Grade MSS	17	4.2	0.6	0.1
Seventh Grade MSS	8	5.9	1.0	0.2
Eighth Grade MSS	4	1.8	0.0	0.0

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Mifflin Alternative Middle	**97**	**9.4**	**1.8**	**0.2**
Sixth Grade MSS	39	8.7	2.0	0.2
Seventh Grade MSS	36	10.0	1.7	0.2
Eighth Grade MSS	22	9.5	1.6	0.2
Mifflin High School	65	5.7	1.0	0.2
High School Intervention	65	5.7	1.0	0.2

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	Students	Lab Logins	Avg Progress	Progress/Lab Login
North Linden Elementary	**28**	**2.0**	**0.2**	**0.1**
Kindergarten	4	1.3	0.0	0.0
First Grade	4	1.3	0.0	0.0
Fourth Grade	12	2.4	0.2	0.1
Fifth Grade	8	2.3	0.5	0.2

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Northland High	**34**	**6.3**	**2.5**	**0.4**
High School Intervention	34	6.3	2.5	0.4

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Northtowne Elementary	**61**	**2.3**	**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	0.3	0.1
Fifth Grade	18	2.8	0.4	0.1

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Salem Elementary	**79**	**7.5**	**5.4**	**0.7**
Kindergarten	3	11.7	19.2	1.6
First Grade	11	3.2	0.1	0.0
Second Grade	14	4.0	1.5	0.4
Third Grade	19	11.0	10.1	0.9
Fourth Grade	16	5.7	1.7	0.3
Fifth Grade	16	10.6	7.8	0.7

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Siebert Elementary	9	1.2	0.0	0.0
Kindergarten	4	1.0	0.0	0.0
Second Grade	2	1.0	0.0	0.0
Third Grade	3	1.7	0.0	0.0

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Valley Forge Elementary	**91**	**4.1**	**2.6**	**0.6**
Kindergarten	19	1.2	1.2	1.0
First Grade	32	1.4	0.8	0.6
Second Grade	40	7.8	4.7	0.6

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Wedgewood Middle	**20**	**3.0**	**0.0**	**0.0**
Sixth Grade MSS	16	2.8	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	Lab Logins	Avg Progress	Progress/Lab Login
Woodcrest Elementary	**1**	**2.0**	**0.0**	**0.0**
Fifth Grade	1	2.0	0.0	0.0

MIND Research Institute Event History

Event Date	District/School	Event Type
9/18/2014	COLUMBUS CITY SCH DISTRICT	Intro to ST Math Training Part 1
10/1/2014	COLUMBUS CITY SCH DISTRICT	Site Visit
10/1/2014	01399220 COLUMBUS CITY SCH DISTRICT : INNIS ELEMENTARY SCHOOL	Site Visit
10/7/2014	00800642 COLUMBUS CITY SCH DISTRICT : MIFFLIN ALTERNATIVE MIDDLE SCH	Site Visit
10/9/2014	COLUMBUS CITY SCH DISTRICT	Intro to ST Math Training Part 1
10/13/2014	00800410 COLUMBUS CITY SCH DISTRICT : JOHNSON PARK MIDDLE SCHOOL	Site Visit
11/10/2014	00799823 COLUMBUS CITY SCH DISTRICT : CASSADY ALT ELEMENTARY SCHOOL	Site Visit
11/12/2014	00801153 COLUMBUS CITY SCH DISTRICT : WEDGEWOOD MIDDLE SCHOOL	Site Visit
11/12/2014	01841821 COLUMBUS CITY SCH DISTRICT : EAKIN ELEMENTARY SCHOOL	Site Visit
11/13/2014	11102423 COLUMBUS CITY SCH DISTRICT : COLUMBUS GLOBAL ACADEMY	Site Visit
11/13/2014	00800953 COLUMBUS CITY SCH DISTRICT : SIEBERT ELEMENTARY SCHOOL	Site Visit
11/13/2014	COLUMBUS CITY SCH DISTRICT	Intro to ST Math Training Part 1
11/17/2014	00800745 COLUMBUS CITY SCH DISTRICT : NORTHTOWNE ELEMENTARY SCHOOL	Site Visit
11/20/2014	00800410 COLUMBUS CITY SCH DISTRICT : JOHNSON PARK MIDDLE SCHOOL	Site Visit
11/24/2014	00801153 COLUMBUS CITY SCH DISTRICT : WEDGEWOOD MIDDLE SCHOOL	Site Visit
12/1/2014	01399220 COLUMBUS CITY SCH DISTRICT : INNIS ELEMENTARY SCHOOL	Site Visit
12/4/2014	00801153 COLUMBUS CITY SCH DISTRICT : WEDGEWOOD MIDDLE SCHOOL	Site Visit
12/5/2014	00800745 COLUMBUS CITY SCH DISTRICT : NORTHTOWNE ELEMENTARY SCHOOL	Site Visit
12/8/2014	00800953 COLUMBUS CITY SCH DISTRICT : SIEBERT ELEMENTARY SCHOOL	Site Visit
12/8/2014	00800628 COLUMBUS CITY SCH DISTRICT : MEDINA MIDDLE SCHOOL	Site Visit
12/15/2014	00800410 COLUMBUS CITY SCH DISTRICT : JOHNSON PARK MIDDLE SCHOOL	Site Visit

Gahanna currently has 399 active students on the program with 19.6% average syllabus progress. Gahanna Middle School West is the only school in the district using the program. The school is only implementing the program in grades 6 and 7. There is one 7th grade class at this school that is being accelerated, meaning the students are 7th graders studying 8th grade curriculum. As a result those 7th grade students are using the 8th Grade MSS ST Math curriculum as it aligns with their accelerated curriculum that they experience during regular classroom instruction.

To support the implementation of the new standards and support the ST Math program, the administration has dedicated two periods daily for mathematics. The teachers have developed a nice structure that utilizes small group instruction to meet the needs of the students. The framework consists of the use of stations in the classroom. One station is ST Math; another is working with the teacher and a third station contains another math activity.

The school has developed a really great culture in support of ST Math. The teachers and students are very excited about the program. The teachers have organized "ST Math Socials" where students can come together after school and engage in ST Math activities. Some teachers and students have even dressed up as the main character in the ST Math software, JiJi the penguin, to foster a culture of excitement around the program.

Challenges

For the implementation of ST Math, they have received Chrome Books from the grant. There have been some issues with using the Chrome Books within the district's firewall. This is an area that the district is working through with the school.

There have been some challenges in determining how to best utilize ST Math with the Special Education class comprised of students with multiple disabilities. The Education Consultant met with the teacher and provided some strategies and ideas to help with the implementation. The teacher was shown how to use teacher mode to support students who were struggling. This allows the teacher to slow down the animation for the students and give them processing time to think about what information they receive from the visual feedback that ST Math provides. Through teacher questioning, students can reflect on their own thinking and gain an understanding of the mathematics in the puzzles. The teacher was also shown how to re-order the curriculum in a way that supports how the students are learning.

Focus Areas

The teachers are developing a great system for using ST Math. Through classroom observations it was clear that students are excited about using ST Math. Because the program is used in stations, more support and resources will be provided to teachers on how to provide support for students who are struggling as they work on their own. Teachers are often teaching another small group during that time and are not able to get to students right away. Strategies for helping students reflect on their own thinking and best practices from other districts will be shared.

Next Steps

The Education Consultant will continue to work with building administrators to provide support and resources for the teachers.

ST Math Progress Data

District ST Math Progress by School

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Gahanna Jefferson City Schools	**399**	**59.4**	**19.6**	**0.3**
Gahanna Middle School - West	399	59.4	19.6	0.3

School ST Math Progress by Grade

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Gahanna Middle School - West	**399**	**59.4**	**19.6**	**0.3**
Sixth Grade MSS	196	64.1	27.3	0.4
Seventh Grade MSS	157	63.2	12.0	0.2
Eighth Grade MSS	46	26.1	12.9	0.5

MIND Research Institute Event History

Event Date	District/School	Event Type
8/27/2014	00801476 GAHANNA-JEFFERSON PUBLIC SD : GAHANNA MIDDLE SCHOOL-WEST	Intro to ST Math Training Part 1
11/18/2014	00801476 GAHANNA-JEFFERSON PUBLIC SD : GAHANNA MIDDLE SCHOOL-WEST	Data Meeting
12/10/2014	00801476 GAHANNA-JEFFERSON PUBLIC SD : GAHANNA MIDDLE SCHOOL-WEST	Site Visit

Hamilton Local Schools currently has 1390 active students on the program with 7.4% average syllabus progress. Hamilton has a total of three schools. The district chose to have all the teachers initially trained using the self-guided courses (1-4). The elementary school was the first school to being using the ST Math program. The elementary building houses grades K-3. In order to support the teachers the Curriculum Coordinator identified a teacher lead at each building. This teacher helps the implementation of ST Math. The Education Consultant has met with the elementary lead to provide additional training and strategies that can be shared with the other teachers.

There have been three site visits conducted in Hamilton. During the site visits, which were primarily held in the lab, the Education Consultant was able to model strategies to support struggling students. It was also an opportunity for teachers to get their questions answered and to troubleshoot any issues that arose. The first site visit focused on tips for students in remembering their passwords, showing teachers how to place the student in password retraining and getting more of the kindergarten students on the program. The second visit focused on providing the teacher leader with information on the reports. Accessing the reports, understanding the reports and providing intervention based on what was discovered in the reports were all discussed. In addition to the reports, strategies like journaling and using a progress tracker in order to help students self-monitor their progress on ST Math. The third visit focused on providing additional support to teachers at both the elementary and the middle school. At the elementary, teachers rotated with their students through the lab. While in the lab, the Education Consultant reviewed the reports with the teachers, demonstrated the use the ST Math Fluency curriculum, and showed how to use teacher mode to facilitate students who struggle. At the middle school, the Education Consultant met with the teacher lead and provided an overview of the program. Information about the onscreen performance indicators and how they can be used to monitor student progress on the system was shared.

Challenges

The elementary has a large population of students and lacks the devices to provide access to ST Math on a regular basis to everyone. This makes implementation of ST Math in every classroom a challenge. They have a computer lab and Chrome Books that are being used to implement the program. The staff is working together to schedule the available devices and lab for use with ST Math.

The middle school has recently begun using the ST Math program. They are experiencing the same issue with the limited devices. In addition to the limited devices, they have had internet connectivity issues that have hindered their ability to implement. As a result, use of ST Math averages about once every two weeks which is below the suggested protocol of 2-3 times per week. As they get further into their implementation, the Education Consultant will work with them to address their challenges and provide the needed support for a successful implementation.

The intermediate school has decided not to utilize the program this year due to having limited devices and experiencing some technical difficulties as well. The Education Consultant has discussed with the Curriculum Coordinator the possibility of identifying one teacher who would be willing to implement the program as a pilot. This will enable the school to see how ST Math can support the goals they have for their students.

Focus Areas

The Education Consultant is meeting with the Curriculum Coordinator and building administrative team to discuss additional needs for the school. Information on the remaining Self-Guided Courses (5-7) was shared with the teacher lead and the Curriculum Coordinator.

Next Steps

The Education Consultant will continue to provide resources and information to the district. A second semester meeting will be scheduled with the teacher leads to discuss implementation progress and identify additional needs.

ST Math Progress Data

District ST Math Progress by School

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Hamilton Local SD	**1390**	**9.5**	**7.4**	**0.8**
Hamilton Elementary School	941	11.9	10.5	0.9
Hamilton Middle School	449	4.5	0.7	0.2

School ST Math Progress by Grade

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Hamilton Elementary	**941**	**11.9**	**10.5**	**0.9**
Kindergarten	215	4.4	6.9	1.6
First Grade	257	8.4	7.8	0.9
Second Grade	264	10.2	6.9	0.7
Third Grade	205	26.2	22.5	0.9

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Hamilton Middle School	**449**	**4.5**	**0.7**	**0.2**
Seventh Grade MSS	237	3.7	0.2	0.1
Eighth Grade MSS	212	5.4	1.2	0.2

MIND Research Institute Event History

Event Date	District/School	Event Type
11/24/2014	00801359 HAMILTON LOCAL SCHOOL DISTRICT : HAMILTON ELEMENTARY SCHOOL	Site Visit
12/5/2014	00801373 HAMILTON LOCAL SCHOOL DISTRICT : HAMILTON MIDDLE SCHOOL	Data Meeting
12/5/2014	00801359 HAMILTON LOCAL SCHOOL DISTRICT : HAMILTON ELEMENTARY SCHOOL	Site Visit

Hilliard currently has 5,876 active students on the program with 13.3% average syllabus progress. Each school is currently utilizing the program in some fashion. The district trained their special populations teachers which included Intervention tutors, Special Education teachers, English Language Learner teachers, and gifted coordinators. The district has decided to focus on these groups of students for the initial implementation year. All of these teachers that attended the training were encouraged to return to their buildings as ST Math Ambassadors. They were asked to share the information they learned about ST Math with the other teachers in their buildings. All of the students in the district elementary schools were added to ST Math through an automated rostering process. The elementary teachers have been encouraged to utilize the ST Math program. Many of the special populations teachers that attended training have shared the program with the staff at their respective schools and as a result ST Math is being utilized in many regular classrooms across the district.

The first set of trainings were held on 9/10/14, 9/11/14, and 9/25/14 focused on helping teachers understand the purpose of ST Math, how to get the students on the games, how to use the onscreen indicators to monitor student progress and how to facilitate questions with students as they use the program. The second set of trainings occurred on 10/15/4, 10/22/14, and 10/23/14. These trainings were purposefully held after the teachers had opportunity to implement ST Math with their students. The focus of this meeting was to help teachers in facilitating struggling students, managing their curriculum and reviewing their data. During the training the teachers were given the opportunity to practice asking facilitating questions. In addition, the teachers dug into their data and created an action plan for their next ST Math session.

There have been nine site visits conducted in Hilliard. Each site visit was tailored to meet the needs of the school. The support provided during the site visits included Q & A with teachers, overview trainings, lab site visits and data conversations with teachers. During the lab and classroom visits, teachers were shown strategies for interacting with the students while they were engaged in ST Math.

Challenges
The district has focused the implementation on the special population classes (Gifted and Talented, English Language Learners and Special Education). Schools in the district are at various forms of implementation. Many of the teachers struggle with finding the time to do ST Math within their pull out programs. There have also been additional concerns raised regarding the limited number of devices to implement the program. Some of the teachers have shared the information on ST Math with their colleagues in hopes to make it a building-wide implementation. The Education Consultant is working with math coaches at several buildings to set up class support visits. The purpose of these visits will be to show teachers how to maximize their ST Math time.

Focus Areas
Site visits and data meetings are being set up to provide an additional layer of support for the teachers. The data meetings will ensure all principals are aware of how to read the data reports and understand strategies to help teachers support students. The site visits will continue to be tailored to the needs of the school, however they will all have a focus on helping teachers facilitate student understanding through questioning techniques. Resources and information to support curriculum alignment will be shared with the district lead.

Next Steps
The Education Consultant will continue to work with the individual schools to support their implementation of ST Math. Site visits and data meetings will continue to be scheduled and district level data will be sent to the district leads for monitoring purpose.

ST Math Progress Data

District ST Math Progress by School

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Hilliard City Schools	**5876**	**16.9**	**13.3**	**0.8**
Alton Darby Elementary School	304	11.8	10.8	0.9
Avery Elementary School	370	15.8	12.4	0.8
Beacon Elementary School	479	19.5	14.8	0.8
Britton Elementary School	369	19.0	13.6	0.7
Brown Elementary School	549	16.8	11.9	0.7
Darby Creek Elementary School	446	21.4	14.5	0.7
Hilliard Crossing Elementary School	453	8.5	8.2	1.0
Hilliard Horizon Elementary School	624	14.6	9.1	0.6
Hoffman Trails Elementary School	276	17.1	18.7	1.1
J W Reason Elementary School	506	18.4	15.2	0.8
Norwich Elementary School	89	16.9	15.2	0.9
Ridgewood Elementary School	517	16.2	11.1	0.7
Scioto Darby Elementary School	465	15.5	11.9	0.8
Washington Elementary School	429	24.8	23.8	1.0

School ST Math Progress by Grade

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Alton Darby Elementary	**304**	**11.8**	**10.8**	**0.9**
Kindergarten	1	8.0	7.7	1.0
First Grade	78	15.9	15.4	1.0
Second Grade	65	12.0	7.8	0.7
Third Grade	6	10.5	1.8	0.2
Fourth Grade	79	6.3	6.9	1.1
Fifth Grade	75	13.6	13.6	1.0

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Avery Elementary	**370**	**15.8**	**12.4**	**0.8**
Kindergarten	54	16.6	16.3	1.0
First Grade	56	11.0	11.1	1.0
Second Grade	63	15.2	13.1	0.9
Third Grade	67	22.8	18.7	0.8
Fourth Grade	59	21.2	13.6	0.6
Fifth Grade	71	8.6	2.8	0.3

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Beacon Elementary	**479**	**19.5**	**14.8**	**0.8**
Kindergarten	69	6.7	7.5	1.1
First Grade	91	12.4	15.6	1.3
Second Grade	84	13.5	9.2	0.7
Third Grade	81	23.5	19.6	0.8
Fourth Grade	83	47.6	24.0	0.5
Fifth Grade	71	11.0	11.2	1.0

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Britton Elementary	**369**	**19.0**	**13.6**	**0.7**
Kindergarten	4	12.5	7.2	0.6
First Grade	64	35.4	27.7	0.8
Second Grade	78	20.2	12.2	0.6
Third Grade	67	15.6	12.6	0.8
Fourth Grade	80	9.5	5.4	0.6
Fifth Grade	76	17.4	13.2	0.8

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Brown Elementary	**549**	**16.8**	**11.9**	**0.7**
Kindergarten	62	14.4	14.9	1.0
First Grade	96	22.3	18.4	0.8
Second Grade	96	16.4	8.2	0.5
Third Grade	91	28.7	20.6	0.7
Fourth Grade	92	15.3	8.3	0.5
Fifth Grade	112	5.3	4.0	0.8

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Darby Creek Elementary	**446**	**21.4**	**14.5**	**0.7**
Kindergarten	74	5.5	8.4	1.5
First Grade	28	25.1	24.1	1.0
Second Grade	92	22.5	12.7	0.6
Third Grade	88	24.7	14.2	0.6
Fourth Grade	77	27.7	14.3	0.5
Fifth Grade	87	23.6	19.2	0.8

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Hilliard Crossing Elementary	**453**	**8.5**	**8.2**	**1.0**
Kindergarten	100	11.8	13.7	1.2
First Grade	73	10.8	9.0	0.8
Second Grade	96	9.0	6.8	0.8
Third Grade	80	6.9	7.5	1.1
Fourth Grade	26	12.1	8.4	0.7
Fifth Grade	78	2.2	2.9	1.3

Hilliard Horizon Elementary	Students	Lab Logins	Avg Progress	Progress/Lab Login
Hilliard Horizon Elementary	**624**	**14.6**	**9.1**	**0.6**
Kindergarten	99	1.3	1.4	1.1
First Grade	91	26.4	18.2	0.7
Second Grade	107	9.3	5.0	0.5
Third Grade	101	25.3	12.7	0.5
Fourth Grade	111	14.6	6.7	0.5
Fifth Grade	115	12.3	11.5	0.9

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Hoffman Trails Elementary	**276**	**17.1**	**18.7**	**1.1**
First Grade	64	4.8	5.9	1.2
Second Grade	24	27.8	31.3	1.1
Third Grade	33	24.3	11.9	0.5
Fourth Grade	77	21.7	27.5	1.3
Fifth Grade	78	16.3	19.6	1.2

	Students	Lab Logins	Avg Progress	Progress/Lab Login
J W Reason Elementary	**506**	**18.4**	**15.2**	**0.8**
Kindergarten	101	12.5	13.9	1.1
First Grade	95	23.0	14.4	0.6
Second Grade	82	14.6	19.2	1.3
Third Grade	92	19.2	18.0	0.9
Fourth Grade	74	22.4	10.8	0.5
Fifth Grade	62	20.0	14.7	0.7

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Norwich Elementary	**89**	**16.9**	**15.2**	**0.9**
Kindergarten	13	27.5	38.4	1.4
First Grade	17	25.5	19.8	0.8
Second Grade	2	17.0	10.8	0.6
Third Grade	6	18.5	5.9	0.3
Fourth Grade	11	22.3	10.0	0.5
Fifth Grade	40	8.2	8.6	1.1

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Ridgewood Elementary	**517**	**16.2**	**11.1**	**0.7**
Kindergarten	32	2.4	2.3	1.0
First Grade	96	14.5	13.4	0.9
Second Grade	100	17.2	8.0	0.5
Third Grade	95	25.7	20.6	0.8
Fourth Grade	97	19.8	10.5	0.5
Fifth Grade	97	8.5	6.4	0.8

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Scioto Darby Elementary	**465**	**15.5**	**11.9**	**0.8**
Kindergarten	58	3.5	6.1	1.7
First Grade	85	4.5	5.3	1.2
Second Grade	73	7.7	7.1	0.9
Third Grade	67	12.0	11.2	0.9
Fourth Grade	81	31.9	22.6	0.7
Fifth Grade	101	26.4	16.1	0.6

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Washington Elementary	**429**	**24.8**	**23.8**	**1.0**
Kindergarten	63	30.2	34.6	1.1
First Grade	64	28.5	23.6	0.8
Second Grade	75	30.6	25.9	0.8
Third Grade	83	24.7	19.5	0.8
Fourth Grade	71	17.3	21.4	1.2
Fifth Grade	73	18.2	19.4	1.1

MIND Research Institute Event History

Event Date	District/School	Event Type
9/10/2014	HILLIARD CITY SCHOOL DISTRICT	Intro to ST Math Training Part 1
9/10/2014	HILLIARD CITY SCHOOL DISTRICT	Intro to ST Math Training Part 1
9/15/2014	HILLIARD CITY SCHOOL DISTRICT	Intro to ST Math Training Part 1
9/15/2014	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	04449965 HILLIARD CITY SCHOOL DISTRICT : HILLIARD HORIZON ELEM SCHOOL	Site Visit
10/13/2014	00802705:1 EDUCATIONAL SERV CTR-CTL OHIO : ESC HILLARD CITY SCHOOL	Site Visit
10/13/2014	00801799 HILLIARD CITY SCHOOL DISTRICT : J W REASON ELEMENTARY SCHOOL	Implementation Planning Meeting
10/15/2014	HILLIARD CITY SCHOOL DISTRICT	Intro to ST Math Training Part 1
10/15/2014	HILLIARD CITY SCHOOL DISTRICT	Intro to ST Math Training Part 1
10/21/2014	04035318 HILLIARD CITY SCHOOL DISTRICT : HILLIARD CROSSING ELEM SCHOOL	Site Visit
10/21/2014	04035320 HILLIARD CITY SCHOOL DISTRICT : NORWICH ELEMENTARY SCHOOL	Site Visit
10/22/2014	HILLIARD CITY SCHOOL DISTRICT	Intro to ST Math Training Part 1
10/22/2014	HILLIARD CITY SCHOOL DISTRICT	Intro to ST Math Training Part 1
10/25/2014	HILLIARD CITY SCHOOL DISTRICT	Intro to ST Math Training Part 1
10/25/2014	HILLIARD CITY SCHOOL DISTRICT	Intro to ST Math Training Part 1
12/15/2014	00801737 HILLIARD CITY SCHOOL DISTRICT : BEACON ELEMENTARY SCHOOL	Site Visit

Worthington currently has 3,323 active students on the program with 7.1% average syllabus progress. The district currently has a lot of programs and initiatives. The focus of the implementation this year is to expose teachers to the program and provide support to those teachers who choose to implement this program. The district is providing a lot of support through the Math Curriculum Coordinator to help teachers understand the benefits of ST Math and determine how it may best fit into their classroom and school goals. While the teachers are not required to use the program, they are encouraged to think about how the program may fit into their classroom if not this year, then next year.

Four half-day training sessions were provided at the district level on 10/15/14 and 10/16/14. Approximately 95 teachers attended the training. One of the concerns for the secondary teachers is the need to address students that are below grade level. During training, phone conversations and at site visits, the intervention piece to the Middle School Supplement was explained to the teachers. The other concern was how ST Math will support the Integrated Math Pathway the district is implementing with the Common Core.

There have been twelve site visits conducted in Worthington. During the site visits, the consultants from MIND worked with teachers in their classrooms to provide them and their students a wide variety of support. Students were taught how to log onto ST Math and strategies for learning their passwords were shared. Teachers were shown how to provide support for struggling students through teacher-mode and questioning. In addition to the in class support, the consultants conducted staff meetings and met with groups of teachers during their planning period. These meetings focused on providing an overview of ST Math; experience with logging on to the system; understanding how to get their students on the games; learning how to read the reports and how to make connections through facilitating questions.

In working with the district math coordinator, we are discussing additional training that is needed to support the teachers. The district has held a question and answer session for their ST Math users and provided surveys to determine teacher needs. The district math coordinator has been a huge advocate for ST Math and is working closely with the consultants from MIND as well as the district staff to ensure a smooth implementation. Through the interactions with teachers, the district math coordinator is identifying additional support that is needed.

Challenges
The district currently has a lot of initiatives and other competing math programs. In this initial year, the teachers are making the choice of which program best fits their classroom goals.

Focus Areas
The district has other initiatives in place for their schools. To help support the ST Math and the goals of the district, the Math Curriculum Coordinator and Education Consultant are working together to assess needs in order to plan the next level of trainings. Data meetings are being set up to ensure all principals are aware of how to read the data reports and understand strategies to help teachers support students. Additional support and/or resources will be provided to the secondary teachers to help them understand how ST Math helps support their Integrated Math Pathway. For all levels continued support will be provided on strategies teachers can use to focus on the mathematical practices through the ST Math program; how to support special population students and how ST Math can complement the district curriculum.

Next Steps
The Education Consultant will continue to work with the individual schools to support their implementation of ST Math. Site visits and data meetings will continue to be scheduled and district level data will be sent to the district leads for monitoring purpose.

ST Math Progress Data

District ST Math Progress by School

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Worthington SD	**3323**	**9.3**	**7.1**	**0.8**
Bluffsview Elementary School	160	22.7	25.3	1.1
Brookside Elementary School	204	9.5	5.9	0.6
Colonial Hills Elementary School	299	15.2	10.9	0.7
Evening Street Elementary School	202	7.5	5.0	0.7
Granby Elementary School	199	19.9	18.7	0.9
Kilbourne Middle School	90	7.3	2.7	0.4
Liberty Elementary School	215	6.9	4.7	0.7
McCord Middle School	51	10.2	1.7	0.2
Phoenix Middle School	159	6.4	4.8	0.8
Slate Hill Elementary School	368	5.6	3.9	0.7
Thomas Worthington High School	44	8.9	1.1	0.1
Wilson Hill Elementary School	423	7.7	5.8	0.8
Worthington Estates Elementary School	112	10.7	5.9	0.6
Worthington Hills Elementary School	124	11.7	12.3	1.1
Worthington Kilbourne High School	100	1.7	1.1	0.6
Worthington Park Elementary School	201	6.7	7.9	1.2
Worthingway Middle School	372	4.4	1.1	0.3

School ST Math Progress by Grade

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Bluffsview Elementary	**160**	**22.7**	**25.3**	**1.1**
Second Grade	2	11.5	6.2	0.5
Third Grade	14	26.4	36.8	1.4
Fourth Grade	63	24.7	26.6	1.1
Fifth Grade	63	14.4	15.6	1.1
Sixth Grade	18	43.2	48.0	1.1

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Brookside Elementary	**204**	**9.5**	**5.9**	**0.6**
Kindergarten	20	2.6	2.0	0.8
First Grade	31	2.1	0.8	0.4
Second Grade	8	3.4	0.9	0.3
Third Grade	33	7.7	5.4	0.7
Fourth Grade	28	21.2	14.3	0.7
Fifth Grade	46	11.6	8.6	0.7
Sixth Grade	38	10.9	4.3	0.4

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Colonial Hills Elementary	**299**	**15.2**	**10.9**	**0.7**
Kindergarten	48	8.6	17.3	2.0
First Grade	1	2.0	0.0	0.0
Second Grade	45	2.4	2.9	1.2
Third Grade	51	25.4	13.9	0.5
Fourth Grade	55	19.9	11.5	0.6
Fifth Grade	49	22.2	14.5	0.7
Sixth Grade	50	10.5	4.7	0.5

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Evening Street Elementary	**202**	**7.5**	**5.0**	**0.7**
Second Grade	41	1.7	0.9	0.6
Third Grade	27	2.1	0.4	0.2
Fourth Grade	85	15.4	10.9	0.7
Fifth Grade	1	1.0	0.0	0.0
Sixth Grade	48	1.6	0.6	0.4

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Granby Elementary	**199**	**19.9**	**18.7**	**0.9**
Second Grade	15	5.4	7.6	1.4
Third Grade	61	24.2	23.8	1.0
Fourth Grade	19	6.4	5.7	0.9
Fifth Grade	45	18.4	15.2	0.8
Sixth Grade	59	24.7	22.9	0.9

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Kilbourne Middle	**90**	**7.3**	**2.7**	**0.4**
Seventh Grade MSS	41	6.0	0.6	0.1
Eighth Grade MSS	49	8.4	4.4	0.5

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Liberty Elementary	**215**	**6.9**	**4.7**	**0.7**
Kindergarten	1	2.0	3.7	1.9
Second Grade	1	12.0	12.6	1.1
Third Grade	79	5.1	3.3	0.7
Fourth Grade	60	8.8	6.6	0.8
Fifth Grade	16	8.4	7.9	0.9
Sixth Grade	58	7.1	3.7	0.5

	Students	Lab Logins	Avg Progress	Progress/Lab Login
McCord Middle	**51**	**10.2**	**1.7**	**0.2**
Seventh Grade MSS	10	8.1	1.5	0.2
Eighth Grade MSS	41	10.7	1.7	0.2

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Phoenix Middle	**159**	**6.4**	**4.8**	**0.8**
Seventh Grade MSS	52	8.7	5.3	0.6
Eighth Grade MSS	107	5.3	4.6	0.9

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Slate Hill Elementary	**368**	**5.6**	**3.9**	**0.7**
Kindergarten	15	1.7	0.6	0.3
First Grade	25	3.1	1.6	0.5
Second Grade	70	7.6	7.3	1.0
Third Grade	60	3.5	1.7	0.5
Fourth Grade	51	5.0	2.5	0.5
Fifth Grade	65	7.4	7.0	1.0
Sixth Grade	82	5.8	2.4	0.4

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Thomas Worthington High	**44**	**8.9**	**1.1**	**0.1**
High School Intervention	44	8.9	1.1	0.1

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Wilson Hill Elementary	**423**	**7.7**	**5.8**	**0.8**
Kindergarten	19	3.2	6.2	1.9
First Grade	86	2.4	3.5	1.4
Second Grade	73	19.6	14.7	0.7
Third Grade	61	7.5	5.5	0.7
Fourth Grade	58	6.1	4.4	0.7
Fifth Grade	60	8.0	4.5	0.6
Sixth Grade	66	3.8	1.4	0.4

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Worthington Estates Elementary	**112**	**10.7**	**5.9**	**0.6**
Second Grade	41	2.6	1.2	0.5
Third Grade	2	9.5	4.2	0.4
Fourth Grade	3	4.3	0.9	0.2
Fifth Grade	49	21.3	12.2	0.6
Sixth Grade	17	1.4	0.4	0.3

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Worthington Hills Elementary	**124**	**11.7**	**12.3**	**1.1**
Kindergarten	2	9.5	13.5	1.4
First Grade	1	15.0	6.9	0.5
Second Grade	4	12.3	4.3	0.4
Third Grade	11	14.0	16.3	1.2
Fourth Grade	13	19.2	15.4	0.8
Fifth Grade	24	9.0	12.3	1.4
Sixth Grade	69	10.8	11.7	1.1

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Worthington Kilbourne High	**100**	**1.7**	**1.1**	**0.6**
High School Intervention	100	1.7	1.1	0.6

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Worthington Park Elementary	**201**	**6.7**	**7.9**	**1.2**
Kindergarten	24	5.4	10.5	1.9
Second Grade	23	3.4	1.8	0.5
Third Grade	20	4.8	5.4	1.1
Fourth Grade	12	4.2	2.4	0.6
Fifth Grade	64	7.0	13.1	1.9
Sixth Grade	58	9.3	5.4	0.6

	Students	Lab Logins	Avg Progress	Progress/Lab Login
Worthingway Middle	**372**	**4.4**	**1.1**	**0.3**
Seventh Grade MSS	190	5.2	1.2	0.2
Eighth Grade MSS	182	3.5	1.1	0.3

MIND Research Institute Event History

Event Date	District/School	Event Type
10/15/2014	Worthington School District	Intro to ST Math Part 1
10/15/2014	Worthington School District	Intro to ST Math Part 1
10/16/2014	Worthington School District	Intro to ST Math Part 1
10/16/2014	Worthington School District	Intro to ST Math Part 1
11/12/2014	00802561 WORTHINGTON SCHOOL DISTRICT : WILSON HILL ELEMENTARY SCHOOL	Site Visit
11/12/2014	03393296 WORTHINGTON SCHOOL DISTRICT : SLATE HILL ELEMENTARY SCHOOL	Site Visit
11/13/2014	02131423 WORTHINGTON SCHOOL DISTRICT : LIBERTY ELEMENTARY SCHOOL	Site Visit
11/14/2014	00802535 WORTHINGTON SCHOOL DISTRICT : EVENING STREET ELEM SCHOOL	Site Visit
12/10/2014	03049201 WORTHINGTON SCHOOL DISTRICT : GRANBY ELEMENTARY SCHOOL	Site Visit
12/11/2014	00802511 WORTHINGTON SCHOOL DISTRICT : BROOKSIDE ELEMENTARY SCHOOL	Site Visit
12/11/2014	00802573 WORTHINGTON SCHOOL DISTRICT : WORTHINGTON ESTATES ELEM SCH	Site Visit
12/11/2014	00802535 WORTHINGTON SCHOOL DISTRICT : EVENING STREET ELEM SCHOOL	Site Visit
12/17/2014	03393284 WORTHINGTON SCHOOL DISTRICT : BLUFFSVIEW ELEMENTARY SCHOOL	Site Visit
12/17/2014	00802535 WORTHINGTON SCHOOL DISTRICT : EVENING STREET ELEM SCHOOL	Site Visit
12/17/2014	00802511 WORTHINGTON SCHOOL DISTRICT : BROOKSIDE ELEMENTARY SCHOOL	Site Visit
1/7/2015	00802535 WORTHINGTON SCHOOL DISTRICT : EVENING STREET ELEM SCHOOL	Site Visit
1/7/2015	00802535 WORTHINGTON SCHOOL DISTRICT : EVENING STREET ELEM SCHOOL	Data Meeting