**Summary**

**Stall Brook Elementary School**

*Briefly describe the data project your team undertook throughout this course:*

Using MCAS data, we identified a student learning problem of practice. There was a significant achievement gap between Stall Brook students who are economically disadvantaged and the state average with regard to achievement on the MCAS in math. Only 15% of Stall Brook ED students met or exceeded the standards in math (3rd-grade students), whereas, 31% of the ED 3rd graders in the state met or exceeding the standard. Because of the achievement gap, we explored possible causes.

This is what we identified as our students learning problem: **There is an achievement gap in the area of math between economically disadvantaged students as compared to the state.**

*How has this course addressed our deficits in understanding the underlying causes of student risk and build the skills of the teams to take action and build interventions based on data?*

This course has taught us a systematic way to capture our hunches as to why students are not achieving, discuss them, and go through a data-based process to determine if these conjectures are based in fact or anecdotal.

**Stall Brook Elementary School - Verified CausesTree**

**How we identified the Student Learning Problems:**

Using MCAS data, we identified a student learning problem of practice. There was a significant achievement gap between Stall Brook students who are economically disadvantaged and the state average with regard to achievement on the MCAS in math. Only 15% of Stall Brook ED students met or exceeded the standards in math (3rd-grade students), whereas, 31% of the ED 3rd graders in the state met or exceeding the standard. Because of the achievement gap, we explored possible causes and this is the process we went through:

**Student Learning Problem: There is an achievement gap in the area of math between economically disadvantaged students as compared to the state.**

|  | **Curriculum** | **Instruction** | **Assessment** | **Equity** | **Critical Supports** |
| --- | --- | --- | --- | --- | --- |
| **Possible Causes** | Our Think Math curriculum is not aligned with the state standards.  Is our curriculum accessible to all? | Teachers are not prepared to use the best practices with regard to instruction. | Are the local assessments we use to drive instruction good indicators of how students will perform on MCAS. | Are ED students equitable distributed among co-taught rooms?    Do co-taught classrooms have a different composition that is less supported due to the behavioral make-up of the classroom? | Time spent on Math (home and school).  Attendance |
| **Research Findings** | When 50% of the students are not meeting the benchmark it is usually a curriculum issue. (Powerful Task Design, John Antonetti and Terri Stice). |  |  | ED students benefit from a more supportive environment to meet their needs. |  |
| **Local Data Findings** | Our curriculum is not aligned, and efforts were made to supplement and amend the Think Math curriculum to align with CCSS. Additionally, we are currently undergoing a curriculum review and piloting two new math programs K-5. | Survey, Stall Brook Math Practices | We compared IREADY scores at the end of the year with MCAS scores, there was a correlation between students exceeding the standards on MCAS and students exceeding the standards on our IREADY test. | According to local enrollment information, a much higher percentage of ED students in co-taught classrooms. | According to the survey results, 72.8% of classroom teachers are spending 65-80 minutes a day on math instruction and practice.  Our ED students do not have an attendance issue.  Transiency is not a cause. |
| **Verified Causes** | This is a cause.  According to MCAS data, 85% of ED are not meeting or exceeding the benchmark in the math standards. | This is a cause. In a local survey, classroom teachers self reported that 55% do not feel prepared to raise the achievement level of students one or more grade levels below. It was also self reported that less than 60% of teachers are implementing 3 out of 5 best practices in their math instruction. | This is not a cause. | This is not a cause.  \*Which led us to consider how supportive our co-taught classrooms are given the diverse and significant needs of the students (academic and behavioral function).  This area needs more exploration. | This is not a cause. |

**Summary**

**DiPietro Elementary School**

**Briefly describe the data project your team undertook throughout this course:**

Using MCAS data and the processes we learned from the course Data Coaching: Unleashing the Power of Creative Inquiry, we identified a student learning problem of practice, which is: there is an achievement gap in the area of math between the special education populations when comparing our school to the state. By comparing our schools’ data to that of the state for various subgroups (Special Education, Economic Disadvantaged and Title 1) we found that 47% of grade three students met or exceeded expectations based on 2018 MCAS results. 0 students with disabilities met or exceeded expectations (0%), as compared to 19% proficient for the state. There was also a 50% gap between non-Title 1 and Title 1 students within our school population. Because of the achievement gap, we explored possible causes by creating a verifying causes tree where we identified causes, researched that these could be causes that affect student learning, gathered and analyzed local data to determine if they were in fact causes. We then created “next steps” through a logic model that outlines 2 areas where we can improve that will help support students.

**How has this course addressed our deficits in understanding the underlying causes of student risk and build the skills of the teams to take action and build interventions based on data?**

This course has taught us how to use data at the school level, grade level and classroom level. For the school level, it has allowed the data team to see how to truly identify what might be affecting student learning through using a process to verify causes (verify causes tree) and create a plan for a student learning goal to address the problem (logic model). Using Data Driven Dialogue analysis, the verifying causes takes it deeper, researching to confirm the cause is truly an area that can affect student learning, then collect and analyze data at the school level to show that this is actually happening for us. This was very powerful because we found after surveying the staff that 2 of the areas we thought were a potential cause were not.

Where the team itself would like to focus next year is at the grade level. We know from our survey that teachers are using data in their classrooms at least weekly to help plan for student needs and instruction. We would like to build on this strength and help teachers to work together with common assessments at the grade level. Teachers are already familiar with the data driven dialogue protocol which we used for data meetings this year and we would like to use this to facilitate conversations with new processes such as item analysis, error analysis, criteria analysis and quick sort. This will also build their capacity for them to analyze data in new ways at the classroom level. After the discussion phase using the processes above, it will be important to be sure we are using the FIRME process to ensure there is follow up and support for the ideas and next steps identified which will in turn support the cyclical process of using the data. We believe that by using the structure above of gathering data, discuss and analyze, and follow up with FIRME will lead to conversation and collaboration on how to help all students achieve.

**DiPietro Elementary School - Verified CausesTree**

**How we identified the Student Learning Problems:**

Using MCAS data, we identified a student learning problem of practice. There was a significant achievement gap between DiPietro students who are receiving special education services and the state average with regard to achievement on the MCAS in math. 47% of grade three students met or exceeded expectations based on 2018 MCAS results. 0 students with disabilities met or exceeded expectations (0%), a difference of 47% when compared to the same population state-wide. There was also a 50% gap between non-Title 1 and Title 1 students within our school population. Because of the achievement gap, we explored possible causes and this is the process we went through:

**Student Learning Problem: There is an achievement gap in the area of math between the special education populations when comparing our school to the state.**

|  | **Curriculum** | **Instruction** | **Assessment** | **Equity** | **Critical Supports** |
| --- | --- | --- | --- | --- | --- |
| **Possible Causes** | Special Education and non-Title 1 students are lacking the ability to access the curriculum effectively. | Teachers struggle with the management, structure and organization of implementing small group instruction | Classroom assessment data is not consistently being used to drive instruction. | Special Education and Title 1 students are missing Tier 1 instruction due to pull-out services. | Difficulty with and lack of adjustment to instruction and timeline based on student understanding. |
| **Research Findings**  **\*\*Need to add quotes or summaries of how it supports** | “Teaching Approaches and Strategies that Work”  “Teachers realized that their previous practice of grouping by ability within or across classes seriously disadvantaged children in the lower groups, who were denied access to the whole curriculum and had negative perceptions about their mathematical ability reinforced.”  P.7 | “Teaching Approaches and Strategies that Work”  “In this June 2014 document ERO described how strategic and successful schools had a long-term commitment to improvement through deliberate, planned actions designed to accelerate student progress.” This article goes on to discuss how many teachers were grouping based on ability level and that this process was detrimental to lower achieving math students who were not being exposed to the same content as their peers. This ability grouping also negatively reinforced the student perceptions about their own mathematical ability. When teachers were taught how to structure their groups differently,these schools were found to show improvement in mathematical achievement. | Unleashing the Power of Collaborative Inquiry, Data Supplement Packet, Sept. 19, 2018  “Protected Time and Place for Teams: Key Factor in Achievement Gains  \*Grade-level teams meet 2-4 times/month  \*Leadership teams meet once/month | “Productive Struggle in Mathematics”  In this research brief it was cited that, “Teachers need to carefully select tasks that require students to struggle and provide the support that students need without diminishing the cognitive demand of the task or giving students too much help. Students need sufficient time, not only to solve difficult mathematical problems, but also to “develop genuine curiosity and stamina” (Goldenberg, et. al., 2015).  If students are not in the classroom for Tier 1 lessons, students are not given the same amount of time to productively struggle through mathematical problems. | “Teaching Approaches and Strategies that Work”  “Some had previously paid little attention to or even omitted sections of the curriculum and now wanted to ensure that their students engages with the whole curriculum. Teachers received their long-term plans and guidelines and/or extended children’s opportunities to learn by integrating mathematics into other curriculum areas. They recognized that number and algebra are vital, if students are to be successful in mathematics, they must also engage fully with learning geometry, measurement and statistics. “ p. 7 |
| **Local Data Findings** | \*There is a 13% average gap school wide between Title I/IEP students and non TItle I/IEP students | From our survey data, 3 out of the 15 teachers that responded are using small group instruction 1 time per week. 4 out of 15 teachers that responded are using it 2-3 times per week. 8 out of the 15 teachers that responded are using small group instruction 4-5 days per week.  70% of teachers surveyed reported that they find consistent implementation of small group math instruction either challenging or extremely challenging. | From our survey data, 15 out of the 15 teachers who responded reported using data either daily or weekly to drive their classroom instruction. | \*From our survey data, 8 out of the 15 teachers that responded reported that their IEP/Title 1 students miss more than 20% of whole group math instruction due to pull out services. | From the survey, 10 out 15 teachers are making weekly adjustments to the math curriculum. 3 out of the 15 teachers are making the adjustments monthly. 2 teachers are not adjusting the math curriculum. Some reasons for adjusting are : reteaching, pre-teaching, timing, lessons were not aligned in a cohesive manner, |
| **Verified Causes** | More research is needed to find the average gap for Massachusetts between TItle I/IEP students | This is a potential cause. | This is not a cause. | This is a potential cause. | This is not a cause. |

**Summary**

**Bellingham Memorial School**

Jessica Mullin

Brianna Zalusky

Paula Bailey

Sarah Houle

Briefly describe the data project your team undertook throughout this course:

The Bellingham Memorial School Data Team decided on a Student Learning Problem relating to the fifth grade. Our SLP was that a number of tier 1 fifth grade students’ scores decreased on the mid-year ELA i-Ready diagnostic. Using the verifying causes tree, we generating possible causes for the decline in student performances. Our next step was to verify the causes through research and surveys. From there we were able to identify the cause as inconsistent use of curriculum materials and delivery between the four ELA classrooms.

How has this course addressed our deficits in understanding the underlying causes of student risk and build the skills of the teams to take action and build interventions based on data?

This course has given us the tools and strategies to analyze data through various protocols depending on the objectives. We have furthered our abilities to dig deeper and view disaggregated data to improve student performance. By examining data in grade level PLCs, we were better able to group students based on needs and abilities. As a result of this process, BMS is demonstrating wonderful growth and improvements in students performing on grade level.

**Bellingham Memorial School - Verified Causes Tree**

**Student Learning Problem:** 91% of the 5th Grade Students that showed a decrease on their midyear i-Ready score were in Tier 1 for enrichment.

|  | **Curriculum** | **Instruction** | **Assessment** | **Equity** | **Critical Supports** |
| --- | --- | --- | --- | --- | --- |
| **Possible Causes** | Do teachers have enough time to appropriately teach the prescribed curriculum? | Are the teachers using the curriculum (Making Meaning) with fidelity? | We did not use progress monitoring for 5th grade as a way to guide instruction in enrichment.  Was the diagnostic taken with fidelity by tier 1? | Tier 1 got less targeted instruction as compared with tiers 2 and 3.  Tier 1 groupings were much larger. | There was a lack of definition for tier 1 expectations for teachers.  Do tier 1 teachers have enough resources for a higher level enrichment group? |
| **Research Findings** | “The National Reading Panel Report research shows that ALL students need at least 90 minutes of uninterrupted reading instruction each day to become strong readers, and that this instruction must be systematic, explicit, scaffolded, and differentiated across the classroom” (Just Read, Florida). | “Poor-quality curriculum is at the root of reading problems in many schools... educators can spend their time focusing on how to become the best possible deliverers of thoughtfully arranged, comprehensive, sequential curriculum that embeds standards, the science of reading…” (Education Week) | “...students are measured weekly or monthly, with each student's CBM scores graphed against time....As teachers adjust instructional programs, in an attempt to enhance academic progress for these children, the teachers continue to collect CBM data. They then compare...to identify which components optimize academic growth.” (Reading Rockets) | “The panel recommends differentiating instruction in tier 1. For example, during independent work time, students weak in vocabulary can practice vocabulary with a partner or in small groups, while other students form teams to brainstorm character traits and motivations for the main characters in the story they are reading that week.”(Clearing House) |  |
| **Local Data Findings** | Teachers have 52 minutes a day for ELA instruction (both reading and writing, vocabulary, word study, etc) | According to a survey, teachers are using 13 different curriculum programs just for reading comprehension alone.  The majority of students had the same 2 teachers for ELA instruction. | Progress monitoring was not done for tier 1. | Tier 3 average group size: 7 students  Tier 2 average group size: 12 students  Tier 1 average group size: 22 students |  |
| **Verified Causes** | Not enough time is being given daily for ELA instruction | Teachers are not using one ELA program with fidelity. | Without progress monitoring, teachers are not providing explicit instruction | n/a |  |

<http://www.readingrockets.org/article/example-90-minute-reading-block>

<http://www.readingrockets.org/article/what-scientifically-based-research-progress-monitoring>

<https://www.edweek.org/ew/articles/2018/10/29/why-doesnt-every-teacher-know-the-research.html>

**Bellingham High School - Verified Causes Tree**

**Student Learning Problem:**

37% of students correctly responded to questions within the Number Sense Strand of the 8th Grade Math MCAS. This is 6% below the state average. Also 39 % of students correctly responded to a subgroup of questions within the Functions Strand, which is 11% below the state. The subgroup is “Define, evaluate, and compare functions.”

|  | **Curriculum** | **Instruction** | **Assessment** | **Equity** | **Critical Supports** |
| --- | --- | --- | --- | --- | --- |
| **Possible Causes** | Curriculum and Instruction have not necessarily been adjusted to meet state standards. | See curriculum | MCAS Next Generation test is still new to many staff. |  |  |
| **Research Findings** | ( 50% of students not meeting benchmark means that there is an issue with curriculum - find definite info to quote)) |  |  |  |  |
| **Local Data Findings** | Written curriculum shows that the majority of the state standards are covered. |  | I-Ready score for 2017/2018 school year showed that 68% of 8th grade students were below grade level at the end of the school year (diagnostic was done shortly after MCAS) |  | Staff have received/ are receiving PD surrounding curriculum at all grade levels |
| **Verified Causes** | The curriculum is not being faithfully followed. |  | As MCAS Next Gen is implemented more and more sample questions will be made available for teachers to use in instruction to help prepare students for the assessment. |  |  |