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Effective Implementation of a Formative Assessment System

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Effective Implementation of a Formative Assessment System

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Educational Leadership Doctoral Program

Submitted in partial fulfillment
of the requirements of
Doctor of Education

National College of Education
National Louis University

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DISSERTATION ORGANIZATION STATEMENT

This document is organized to meet the three-part dissertation requirement of the National Louis University (NLU) Educational Leadership (EDL) Doctoral Program. The National Louis Educational Leadership EdD is a professional practice degree program (Shulman et al., 2006).

For the dissertation requirement, doctoral candidates are required to plan, research, and implement three major projects, one each year, within their school or district with a focus on professional practice. The three projects are:

- Program Evaluation
- Change Leadership Plan
- Policy Advocacy Document

I have learned to identify areas of strength and weakness within my school building. Through the Program Evaluation, I was able to critique our current formative assessment system by using data points and surveying teachers. This compilation identified gaps that allowed me to create a strategic Change Plan to institute a stronger approach to our current formative assessment system, which led me comfortably to the Policy Advocacy relating to the change in homework.

For the **Program Evaluation** candidates are required to identify and evaluate a program or practice within their school or district. The “program” can be a current initiative; a grant project; a common practice; or a movement. Focused on utilization, the evaluation can be formative, summative, or developmental (Patton, 2008). The candidate must demonstrate how the evaluation directly relates to student learning.

In the **Change Leadership Plan** candidates develop a plan that considers organizational possibilities for renewal. The plan for organizational change may be at the building or district level. It must be related to an area in need of improvement with a clear target in mind. The candidate must be able to identify noticeable and feasible differences that should exist as a result of the change plan (Wagner et al., 2006).

In the **Policy Advocacy Document** candidates develop and advocate for a policy at the local, state or national level using reflective practice and research as a means for supporting and promoting reforms in education. Policy advocacy dissertations use critical theory to address moral and ethical issues of policy formation and administrative decision making (i.e., what ought to be). The purpose is to develop reflective, humane and social critics, moral leaders, and competent professionals, guided by a critical practical rational model (Browder, 1995).

Works Cited

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ABSTRACT

The purpose of the Change Leadership Plan was to identify and describe a current issue facing a school district and creating a vision of change to strengthen the issue. With this change plan, the problem is the formative assessment system. The plan advocates for a change to the formative assessment system strengthening student engagement and informing teacher instruction. The changes are examined in several different ways: describing the current situation, conducting research to support change, and designing a vision of what the formative assessment system will look like after the change. The research conducted was done through a survey completed by teachers. The recommendation of this change plan is to provide well developed formative assessments to the students that will inform teacher instruction and engage students within their own learning.

PREFACE

School change has happened for centuries, but is not always easy to implement. Change is a necessity in schools specifically because of the direct impact on student learning. This change plan has the purpose of improving student learning, while also heightening teacher instruction. Developing this change plan has strengthened my ability as a principal. It has allowed me to focus on goals, developing a plan for improvement and monitoring the progress.

Establishing an effective formative assessment system is a necessary change that will benefit students, parents, and teachers. This change plan will push teachers to become reflective practitioners, while also challenging them to involve students within their data.

Using a strategic development plan is essential for the change plan to be implemented effectively and successfully. For starters, the change plan must have a vision of success which identifies the ultimate goal and the steps that will be taken throughout the process of change.

Collaboration, trust and commitment are the areas necessary for this change to be implemented with fidelity. These relationships are built between administration, teachers and students. Relationship building is at the root of changes. Effective communication to all stakeholders is imperative to not only identify why the change is necessary, but to map out the path of change.

Change is critical and crucial for the success of schools and the students it services. It is never easy, but can make unmentionable changes to the focus, purpose and success of education.

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SECTION ONE: INTRODUCTION

Background

Urgency in U.S. schools has been determined by the success and/or failure on state assessments such as: ISAT (Illinois Standard Achievement Test) or PARCC (Partnership for Assessment of Readiness for College and Careers). “Without determining what is truly important, everything becomes urgent, and, in practice then, nothing is important” (Wagner & Kegan, 2006, p. 12). In my district, decision making relies solely on the PARCC test given once a year to make curriculum, assessment or instructional changes. However, districts and schools should anchor their decision-making on organizational change, rather than, quick fixes that do not directly impact teaching and learning. The purpose of this change plan is to provide an outline for an organizational change that enhances the formative assessment system by informing teacher instruction and including student engagement within a district outside a large, Midwestern city.

Formative assessment was first introduced in this district during the summer of 2013 by our current curriculum director. The purpose of introducing the formative assessment system was to enhance teacher instruction through the use of assessment and data. Teachers from every school and grade level in the district were represented during this summer work, which included creating instructional maps for math using Common Core Standards and then devising a four-question assessment to use after the standard concepts, thereby creating consistency within grade levels. The formative assessment data would be used by teachers to determine which students mastered the concepts and which students needed extra support.

In the fall of 2013, teachers were expected to follow the map and document the scores from the formative assessments into Google docs. Learning log meetings were scheduled every four weeks with teachers and administrators to discuss the data and determine instructional approaches for students who did not master the concept. During these meetings, teachers mentioned that there was not enough instructional time to teach certain concepts and that some of the formative assessment questions did not match the concept being taught.

As the administrator, I pushed back during the discussions focusing questions more on teachers' instruction and data usage. I asked, "How did you teach this concept? Was it introduced to the whole group and then practiced in small group? Did you make an anchor chart as you explained the concept? How do you know if students mastered the concept? What will you do with the students that did not master it? Did students see the formative assessment data? Was there any discussion or explanation with students about what they need to improve on for next time?" At first, the responses from teachers were defensive because this directly related to their actions within the classroom. As Wagner and Kegan (2006, p. 13) stated, "Successes often become personal – even, perhaps, a source of identity- and it is understandably difficult for educators to open their practice to scrutiny, share the fruits of their labors with colleagues, or self-constructive criticism from others." After several meetings with similar structure and questioning, the teachers still struggled to be open and have healthy and meaningful conversations about instruction and learning. However, I persisted as it was my responsibility as the building leader to model learning, teamwork and openness to others to move the school forward in a productive way.

Consequently, by the spring of 2014, it became apparent that teachers were instructing using the curriculum map and giving the formative assessments in a compliant manner. As learning log meetings went on, there was little or no reflection on teaching or student engagement. Instead, there was a sense of urgency to “just get through the material,”; along with a sense of negativity about everything concerning the maps and assessments. Teachers’ needed to find a balance between compliance within instruction and creating their own system that would allow for tracking data and using that information for instructional purposes. Jim Collins (2005, p. 7) stated, “what matters is not finding the perfect indicator, but settling upon a consistent and intelligent method of assessing your output results, and then tracking your trajectory with rigor.” In other words, we needed to find what worked for us to provide the necessary learning opportunities for our students.

Statement of the Problem

The utilization of an effective formative assessment should inform teacher instruction and student engagement. However, our formative assessment system is not functioning in that manner. In our current reality, we have a formative assessment given every three weeks after instruction. However, the formative assessments do not match the rigor of Common Core, nor are they written like the problems students are exposed to on Measure of Academic Performance. MAP is a standardized test given three times a year to students in Grades K-5 that expose them to the Common Core Standards. The MAP test allows teachers and students to know which standards they have mastered and which standards need additional support. With that said, teachers still need additional training to

learn how to write effective formative assessments or we need to find a source that already has banked questions to address each standard.

Teachers should be using the data collected from these assessments to inform their instruction, whether it is to the entire class, small groups or individually. Teachers should continuously reflect on and modify their instructional practices when students do not master the concept. Reflection should take place by the administrator during learning log meetings, and teachers will have to document their re-teaching strategies within their lesson plans. These changes will not only impact the way teachers instruct students, but will reform the way teaching, assessing and learning engage students.

Finally, we need to address the student engagement piece. This may be the easiest to incorporate since it has never been done. In the past, teachers would give formative assessments, grade them and level the students instructionally based on the data. Students were never given the opportunity to see their data or understand where they were within the instructional cycle. This has caused a disconnect between instruction and learning and students' ownership in their learning. It is seen as something done to them, not something they participate in. This has led to the creation of a strategic plan that outlines steps for teachers to engage students through conferencing and tracking their learning. This year, teachers will share formative assessment data with students in an individual student conferencing format so that they can see their progress and mastery. Ultimately, teachers need to realize that the utilization of formative assessments allows for fluidity within curriculum and its direct effect on student engagement and learning.

Through my professional observations, I have seen that the problem with the current formative assessment system is multi-layered. The current formative assessment

questions are surface level with no rigor or higher- level thinking involved. Some questions were simple computation, rather than, critical thinking or problem solving. This led to minimal teacher reflection on instruction, and little chance to engage students. Simple computation and surface-level questioning allows teachers to only see right or wrong, and not the process or thinking of the students answering the questions. This gives teachers very little feedback which delineates the reflective process. If the formative assessment questions were revamped and included higher level thinking and more rigor, the teachers would have to reflect more on their instructional practices. In turn, a conference with individual students could take place discussing their strengths and weaknesses in the mathematical concepts.

As the instructional leader of the building it is critical for me to enhance learning by working closely with the teachers on improving the formative assessment system. I have seen teachers struggle to make connections between assessment, instruction and student engagement. This change plan will help to strategically define the purpose, practice and fidelity of a high functioning formative assessment system that impacts student achievement.

Rationale

As a building principal, it is my primary responsibility to ensure that teaching, learning and assessment ultimately prepare students for the 21st century. Unfortunately, over the past few years I have seen struggles within classrooms to achieve these 21st century skills. We have done a good job trying to establish a formative assessment system, but have been less than successful matching the instructional depth and learning necessary to achieve success on PARCC. As educators, we spend so much time preparing

students for the standardized test that we forget about the pieces that directly affect the outcome. Teaching no longer requires the “sit and get model” where teachers teach and students learn. It requires a deeper understanding of content that enables students to think critically, problem solve and become collaborators in their learning. Teachers need to become reflective practitioners that use and understand best practices in instruction while, engaging students within the process.

I conducted a program evaluation focused on the utilization of the formative assessment system used to inform teacher instruction. While gathering evidence from student data on the formative assessments and MAP. I found that the formative assessments do not match the rigor of MAP. This prompted me to survey the teachers to see what their thoughts were about the assessments and the direct impact it had on their instruction. Many the teachers agreed that the formative assessments were not similarly written with the rigor of MAP, and that the results from these assessments did not impact their instruction because they did not believe they matched what they taught the students. Students had no interactions with their data to track their learning. It was seen as a test they needed to take, but would not impact them directly no matter what the result (Ontiveros, 2015). After taking all of this into consideration, it led me to believe that the teachers needed more professional development in math; assessments needed to be streamlined and rewritten to establish greater rigor; and students must be engaged in their own learning. These changes made to the current formative assessment system would allow for greater competencies in teachers and students. The district and community focus heavily on the scores reported from PARCC, but less on what curriculum, resources or instruction we use within the classrooms. Schools are determined failing or

unsuccessful when scores are low; though, we do have systems in place that could ultimately change the course of performance if used strategically and thoughtfully.

Like most districts and education boards, our district is driven by hard core numbers. If something is not working, oftentimes their approach is to clean the slate and start over instead of focusing on incremental, data-backed improvements. The formative assessment system we have in place has built a foundation to authentic and reciprocal learning, but changes need to be made to ensure ultimate student success.

Several questions arise when thinking about how to facilitate the change to create a balanced and effective formative assessment system: Will the district and community support our efforts of change? Is there money to cover the cost of time, professional development and additional resources? Can teachers invest in this change that may involve more time and effort? Will students be willing participants in their own learning?

The change plan would incorporate re-written formative assessments that match the rigor and complexity of MAP and PARCC. I envision the formative assessments will be derived from teachers with support from a consultant, or by purchasing a product that has a bank of questions supporting the rigor or Common Core. The next part of the plan would entail teachers recording the data from these formative assessments and determining what supports are necessary. A standard form will be created to ensure all teachers review the data in the same manner and create an action plan based on that data. Teachers would be provided professional development to ensure that they are recording the data and analyzing it the same way. Questions will be provided on a Learning Log Discussion Form to better identify strengths and weaknesses. What led to a certain teacher's success? What standard will be addressed in re-teaching? What skills do

students need to master? Which students will be re-taught? Will this be whole group or small group? This consistent planning tool will force teachers to reflect and create a plan of action for re-teaching.

The last part of the plan will be to engage students in their own learning using formative assessment data. Teachers will be required to meet with individual students in conferences to show assessment data that identifies their strengths and areas of improvement. Students will use a scoring sheet to track their progress with each standard until mastery.

This is a strategic plan that can work effectively if it is implemented, practiced and supported by both the school and the district. Buy-in is critical, and the benefits to students are worthwhile. Parents will learn about this change in instructional practices during PIN: (Parent Information Night). I have been communicating all year with the district administration and Board of Education through a weekly document called BUD, or Board Update. I consistently use the phrase “areas of improvement” when referring to effectively implementing change within the current formative assessment to include; re-written assessments, data- based decision- making and student engagement. These are critical suggestions I am proposing within the change plan.

Goals

The goal of this change plan is to create an organizational change that will support a sustainable and more effective formative assessment system where teachers use data-based decision -making and engage students in their own learning. This thoughtful and strategic plan needs to be supported by staff, administrators and the district office. Over the past several years, new initiatives have not always been supported by these groups

which has resulted in disjointed relationships and inconsistent data results. Some of the issues surrounding initiatives are the lack of capital for resources, one-time professional development with no additional supports, unclear guidelines and protocols to carry out the task, and union issues regarding changes in work conditions. The newest concern is the change in district leadership specifically an interim superintendent and four newly elected board members. Their decision-making could affect the educational system if they allow outside influences to govern decision-making processes. This could include, but is not limited to, political opinions, lack of trust in decision-making or a completely opposite approach than the district was headed instructionally.

Even though there are some grave concerns with the current reality of the district leadership, staff and administrators are invested in student success. The formative assessment system exists in all buildings, and has been followed using the curriculum maps. We need to improve upon using the resulting data to inform teacher instruction and engage students in the process. We need to focus on creating a system that encourages ongoing improvement in teaching, learning and assessment. Wagner and Kegan (2006, p. 23) emphasizes the importance of that sentiment when they state, “we create schools and districts where all educators learn how to significantly improve their skills as teachers and as instructional leaders.”

The emphasis in my district has been on the results of the PARCC exam and nothing else. The message given to all administrators was scores need to improve period. This message came with no explanation or examination of the core problem. The problem is and always has been the inability of the school district to provide adequate resources and professional development that directly impacts instruction and student achievement.

We need to create a substantial and sustainable environment of learning that impacts teachers, students and administrators equally. The investment is monumental in changing achievement.

Demographics

District X is situated in suburb outside of a large, Midwestern city, and like most districts is working on using assessments as a tool to meet the Common Core State Standards. District X serves five suburb; comprised of five elementary schools and one middle school. After many years of stagnant Illinois Standard Achievement (ISAT) scores; and several schools not making Annual Yearly Progress (AYP), the district implemented an instructional map and teacher- created formative assessments to align instruction with state standards and increase student achievement.

The six schools serve approximately 2,536 students. Seventy-four percent of students are low-income. Sixteen percent of students have disabilities and 18% are English language learners. Student mobility remains low at 11% with the district spending \$7,113 on instructional spending per pupil (Illinois Interactive Report Card, 2015).

No matter their background, quality education should be accessible to everyone, and this change plan will benefit all the students who attend District X. By providing professional development for teachers and involving students in their learning, we can create an effective formative assessment system. Consistency, implementation and purpose will ensure all students in District X are given equal access to a quality education. The only way to prove this is by the actions we take for change!

SECTION TWO: ASSESSING THE 4 CS

In their book *Change Leadership: A practical Guide to Transforming our Schools* (2006), Wagner and Kegan introduce a systematic approach to challenges and goals to invoke change within a school district which he called the 4 C's: Competencies, Conditions, Culture and Context. "A system is a perceived whole whose elements hang together because they continually affect each other over time and operate toward a common purpose" (Wagner & Kegan, 2006, p. 97). Each of these components plays an integral part in the change process. The 4 C's helped to keep me focused and organized to ensure I looked at all aspects of the district.

Competencies refers to the skills that influence student knowledge. Teachers need to be skillful and continuously partake in ongoing learning and professional development to improve their craft. The second C, *Conditions* includes building structure, time, resources and space. There can be substantial work involved in this domain to ensure academic success. The third C, *Culture*, is described as shared beliefs, expectations and behaviors related to instruction and students learning. This in my opinion is the most powerful of the C's because it could make or break a school. Lastly, *Context* refers to the skills students must have as learners and the concerns, demands and expectations of the larger community.

In creating my As-Is (or current reality of the district) and To-Be (what I hope the district will become with changes) charts (see Appendix A and B), I tried to be cognizant of the current conditions of District X in which I serve as principal. I focused on the facts surrounding the formative assessment system while incorporating professional

development, curriculum and instructional practices. Below I describe the current or As-Is 4 C's in my district.

Competencies

My district has some wonderful teachers with a passion and dedication to improve students learning and their own. They share the belief that all students can learn and they are motivated to do whatever is necessary to ensure that happens. The district needs to set priorities about curriculum, assessments and instruction. The math curriculum is outdated and instruction is not like it used to be. Teachers lack the skills to teach math using the Common Core Standards because of the rigor and complexity. They need to be provided professional development to ensure their understanding and application to instruction.

The District's idea of professional development involves one or two trainings throughout the year that addresses the curriculum, resources or instruction. There is no laser focus on the major problem. There needs to be consistent professional development all year to address these issues. It becomes very difficult for teachers to implement material with any fidelity when they have only received minimal training. There is no time for principals to provide their own professional development for their staff because all of the School Improvement Days and Late Starts days have been monopolized for district- wide purposes. Consistency and repetition are the only ways that we can ensure teachers can properly instruct students and change the path of student achievement through job embedded professional development.

Conditions

For at least four years, the district was functioning in the red when it came to financials. Schools were able to purchase resources to support learning, and a new curriculum was a priority. The additional resources were used to supplant the curriculum rather than supplement it. The current curriculum is so outdated that supplanting it would cause inconsistencies between the buildings and the grade levels. Currently, the teachers are using the old math series that does not support Common Core Math. They are required to follow a curriculum cycle of teaching standards, but they are using multiple resources to teach the concepts to students. These resources include: Pinterest, Teachers Pay Teachers or additional resources Googled by the skill. The information students are being exposed to depends on which teacher they have and what resources they downloaded. There is no consistency on how it was being taught or what was being used to teach these skills. Some principals identified the lack of resources and purchased additional materials for their teachers to use, while others were not even cognizant that this is an issue. Although a huge discrepancy within the curriculum being taught was noted between grade levels and schools, the district consistently sent the same message that there is no additional money for new curriculum to support learning, despite adding a new position in the Administrative Center. The amount of money necessary to supplement outdated curriculum has been used to hire additional personnel that does not directly affect student learning. Many teachers are beginning to feel frustrated by the expectations to raise test scores without the requisite, resources, curriculum and professional development. Heifetz, Grashow, and Linsky (2009) would refer to this as an adaptive challenge which entails changing the structure of thoughts, priorities and beliefs.

Until the district understands that the curriculum and resources are the key to instruction, it will continue to be the teachers' and principals' responsibility to raise test scores without the appropriate tools to do so.

Culture

My district has a lot of work to do around culture. We had one interim superintendent that served for 100 days working 1 -2 days per week. The 100 days were up in April which meant we would have another interim for 100 days until June 30th when the new superintendent would be hired. There is no clear direction from the district as far as curriculum, professional development or instructional practices. This leaves building principals to live in isolation in their own buildings. This creates an inconsistency within the district and deviates from the vision of the district. The lack of decision- making has caused many buildings to deviate from teaching cycles, joining committees and teaching summer school. The philosophy that kids should be the first and foremost priority takes a back seat when decisions are made for adult convenience. This is the most important of the 4 C's because of its impact on teacher perspective. If teachers feel that the formative assessments do not accurately match their instruction or the problems on MAP and PARCC, then it will become just another requisite test to them and they will not use the results as an instructional tool for improvement. It becomes more of a product, rather than, a process of learning. Their buy-in is a critical component to instruct with validity, purpose and consistency.

Context

The context in District X, is the community reactions to test scores in our District is what is valued most. If parents or community members come to a board meeting and

address test scores, the district will immediately react to that situation in a negative fashion. For example, the district performed poorly on the PARCC test in the 2015 school year. In the school with the highest scores, 21% percent of students met or exceeded the standards tested. The worst performing school had 15% meeting or exceeding standards. When this news became public there was a large showing of “volume speakers” that make a lot of noise about scores. However, conceptually they do not understand the how and why of the PARCC test. The board of education and superintendent are on a mission to increase test scores and improve instruction. The message becomes branded that the schools need to improve because they are poor performing, but no strategic plan is put into place to achieve that. Unfortunately, after reviewing the data there are not clear demographic sub-groups that can be focused on to close the achievement gap, which makes raising test scores a more difficult task. In the context area, the focus should be on increasing MAP scores and utilizing the formative assessments more effectively.

The 4 C’s create a fundamental structure to look at a problem and assess appropriate ways to acknowledge where we function as a district currently, and where we want the district to go. It critically examines the larger context of a problem and breaks them into smaller pieces for assessment: *Competencies, Conditions, Culture* and *Context*. These elements create a common purpose and effect the overall outcome of any change.

SECTION THREE: RESEARCH METHODOLOGY

Research Design

In order to address my problem statements and change plan, I used a mixed methods approach to provide greater insight into the 4 C's so as to develop a comprehensive plan for change. The mixed method design allowed for a better discussion at the district level when sharing data and input from surveys. Only sharing the hard numbers will not allow us to understand and see how teachers use and implement the formative assessment system within their classroom or with students. The qualitative data allowed me to gain an understanding of the stakeholders' views of the formative assessment system and its changes. Stakeholders should have input on the recommendations for improvements in this program, which results in what Patton (2008, p. 39) describes as, "various design options and kinds of data" collected. Using various data points and design methods allowed me to gain a global view of the effectiveness of the formative assessment system and its impact on the district. It is time we look at data differently and use various points of data to inform us on instruction and achievement. Creating a substantial and robust formative assessment system will create more data that can be used not only for instruction, but also for students to monitor their own learning.

Quantitative data was collected from the Google database that houses all the MAP winter scores for students in Grades 2-5 during the 2015-2016 and 2016-2017 school year. The same survey used in my Program Evaluation will be given to teachers to get feedback on the effectiveness of the formative assessment system and its changes. Changes emphasize newly written formative assessments that match the rigor of MAP and Common Core, professional development for teachers on how to effectively teach the

math standards, and how to engage students with their own learning data through student conferences.

The assessment data from winter 2015-2016 and 2016-2017 is put into 3D bar graphs broken down by the following categories: Lo, LoAvg, Avg, HiAvg, and High. Lo represents 21st percentile, LoAvg 21-40th, Avg 41-60th %, HiAvg 80% and Hi represents the 80th percentile and above. I used these categories because it groups students within levels of learning that are easier to identify and measure. This data will be stored in an Excel spreadsheet without teacher or student names but will be labeled with A or B to differentiate the teacher. The spreadsheet will be located on my computer which is password protected, and then saved on a zip drive that will only be accessible to me.

Qualitative and quantitative data would be in the form of the same anonymous survey given to teachers in the 2015-2016 school year- focusing on Grades 2-5 using an online tool called Survey Monkey. The survey would be a mixed format using a Likert Scale for some questions and written responses for others. The Survey Monkey site is also password protected, and all the data received from the site will be put into a similar excel spreadsheet and protected the same way described above. Teacher quotes from written responses would be coded within the context of the research questions and then aligned to trends collected within the formative assessment data. The data would help reveal the answers to my research questions, in regards to, how teachers reflect on their own practices of instruction and student engagement. It would address how this reflection or lack thereof affects instruction daily for teachers and students.

My two- year change plan focuses on improving the formative assessment system by informing teacher instruction and engaging students. I collected baseline data in the

spring of 2015 from a survey, MAP data and formative assessments in Math. I used Survey Monkey to conduct my survey with teachers in Grades 2-5 that use MAP for Math. I categorized the concepts examined on the Math assessments and compared scores from MAP and formative assessments. This data allowed me to see the areas we were lacking in and those that have proven successful. I would include additional questions on the survey about change to see if progress was made or what additional components may still be missing. Due to the addition of formative assessments that came with the new Math curriculum: I have decided to compare MAP data from the winter of 2015-2016 to Winter Map Data from 2016-2017 to see what differences have occurred. The collection of this data will directly impact the formative assessment system and the quality of teaching and learning that takes place.

Participants

An effective formative assessment system involves many facets of a school district- from teachers, administrators and students. It is imperative that the formative assessments system functions at its highest capacity, while informing teacher instruction and engaging students. Collecting the survey data and MAP has given me a better insight on how to use data to inform instruction and ways to engage students within their data. This allows me to make improvements and change pieces of the system and reassess its impact.

I will be focusing my efforts on one elementary building and the teachers in Grades 2-5. The enrollment of this elementary school is 280 which houses ECE-5th Grade. The 2nd – 5th graders enrollment in 2015 was approximately 150 students. Seventy-four percent of the students are low income, 24% White, 3% Black, 67.7%

Hispanic and 1.9% Asian. Above 21% of the students are English Language Learners, and 22.4% of students have disabilities. The attendance rate is 95.3% and there is a low student mobility at 12%. The average class size is 20 with 50% of the student's meetings standards on the 2014 ISAT. I will be focusing my data collection on eight 2nd – 5th grade teachers. I will not identify the teachers or the students in their classes but will use a unique identifier in their place. The teachers are all female with experience ranging from 1st year to 29th year. There are 4 tenure and 4 non-tenure teachers being used within the study. I chose this specific sub-group of teachers because I have worked closely with them to create, tweak and modify the instructional calendars and assessments for Math. I also wanted to see how well the formative assessment system works on grades levels that also participate in MAP testing three times a year.

Data Gathering Techniques

I compared the winter MAP data 2015-2016 and winter MAP data from 2016-2017 by classroom teacher to determine if the scores have increased or decreased from a year. While these are not the same students, this comparison allowed me to see if students were at the same skill level around the same point in time of the school year. I used the same teachers in Grades 2-5 and surveyed them using the same survey taken in 2015 to see how their answers have changed with the addition of the new curriculum and the formative assessments.

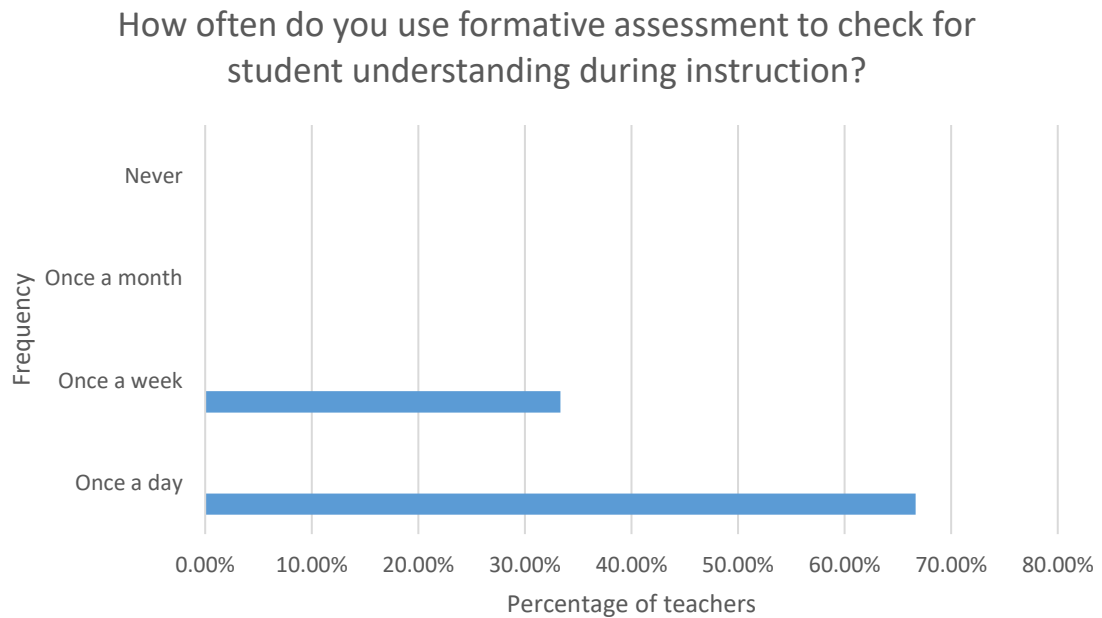
To collect the baseline data in the winter of 2015- I did the following:

I entered data into a Google Doc's template that records the results from MAP data based on classroom level information. I will collect similar data from MAP 2016, to compare winter to winter comparisons of students and classes from Grades 2-5.

The data collection will consist of bar graphs identifying the performance of students from 2015 – 2016 in the winter. Categories will be labeled: Lo, LoAvg, Avg, HiAvg and Hi. This information will help me figure out if the new math curriculum and formative assessments have increased student’s knowledge and ability to perform on the MAP assessment.

This data collection also includes a survey of the teachers using Survey- Monkey so it can record the data for me in a cohesive template. The survey will be anonymous focusing on scaled responses such as:” Once a day”, “Once a Week”, “Once a Month” or “Never”. Questions on this survey will be geared towards formative data, instruction, materials/resources, student engagement and reflective practices (See Figure 1 below).

Figure 1. Formative instruction.



I expect to see a more positive response from 2015 to 2016, as well as a more direct impact on teaching and learning—with identified roles and expectations for both teachers and students—to generate success.

SECTION FOUR: LITERATURE REVIEW

The technical math of the past will not help teachers surpass the need to teach students how to think for themselves to solve unknowns. Now is the time to be accountable: to hold teachers and students to higher standards to meet the rigor of the 21st century. “In recent years, teachers’ knowledge of the subject matter they teach has attracted increasing attention from policymakers” concluded Hill, Rowan, and Ball (1993, p. 3). Hill, Rowan, and Ball (1993) concluded that, subject matter issues arose when they discovered that U.S. teachers were lacking essential knowledge for teaching math, and the teacher’s lack of instructional resources directly affected student learning. Companies need workers that can think critically to solve problems. Even our best schools are failing to prepare students. Teachers need to participate in active and effective professional development to enhance instruction, while also continuously assessing student learning through formative assessment and engaging students within their own data to become accountable learners. We need to create an effective and efficient formative assessment system that will enable us to teach and test the skills that matter most- because our students’ futures are at stake (Wagner & Kegan, 2006, p. 24).

This literature review will focus on professional development, data-driven decision- making and engaging students as these are the key components to any effective and successful formative assessment system.

Professional Development and Practices

Drago-Severson (2009) believes, that children’s well-being and achievement seemed to be influenced by staff who felt supported in their own learning and professional development. It is critical that, “policies keep pace with new ideas about

what, when, and how teachers learn and must focus on developing schools' and teachers' capacities to be responsible for student learning" determined Fp. 81). Teachers need to rethink their own practices through self-reflection and construct new roles and expectations for students while teaching in ways they never taught before. Changing the beliefs and perspectives that most teachers have about learning becomes a loss to them and begins to unravel their unlearning of beliefs about practices that have consumed most their educational careers.

Darling-Hammond & McLaughlin (2011, p. 82) stated, "effective professional development involves teachers both as learners and as teachers, and allows them to struggle with the uncertainties that accompany each role." This type of professional development has several characteristics. It must engage teachers in concrete tasks of teaching, assessment, observation and reflection. It must be grounded in inquiry, reflection and experimentation. It must be collaborative, involving the sharing of knowledge among educators and focusing on practice. It is imperative that professional development is connected to and derived from a teacher's direct work with their students. It must be sustained, ongoing, intensive and supported through coaching or modeling to ensure the most effective practices. Lastly, it should be interwoven with other school change to be most effective and sustained. Drive- by and piecemeal professional development will not make a consistent change to theory, practice or learning. It will remain in a binder on a shelf collecting dust, without directly impacting teaching or learning. Teachers will resort back to what they are comfortable with and complacency with again to be norm. This is in part because most schools lack the structures for collective work on teaching and learning.

Chung-Wei, Andree, and Hammond (2009, p. 30) believe that, “when time for professional development is built into teachers’ working time, their learning activities can be ongoing and sustained and can focus on particular issues over time.” “Job-embedded professional learning time also supports the kind of context-specific professional learning and action research that is effective in catalyzing change” (Chung-Wei, Andree, & Darling-Hammond, 2009, p. 31). We need to provide teachers with extensive opportunities to develop practice beyond one shot professional development meeting they had to attend. Treating teachers as professionals and valuing their learning as a high-priority will directly impact their instruction and the success of students.

Teaching mathematics requires a certain kind of professional development that focuses on knowledge specific to pedagogical content, which intermixes pedagogy and content. This deals specifically with common student difficulties, common misperceptions, and various teaching strategies used in various settings. It is critical for teachers to learn how to respond mathematically to guide, redirect or extend a student’s thinking (White, Donaldson, Hodge, & Ruff, 2006). To have an effective formative assessment system, teachers need to have the competencies and mathematical standards required of them from the Common Core Standards.

Data-Driven Decision-Making

While transformational learning helps to tweak the way we process information and relay it to students, informational learning is critical to increase our working knowledge. Drago-Severson (2009) states that, informational learning changes adult’s attitudes and skills related to technology and the use of data to support student learning. Without question, assessment and student achievement have been the core of education

for a decade. It is at the forefront of all school improvement plans representing the driving force of accountability and achievement.

Success and failures of schools are based on the high stakes test known as PARCC. The PARCC is taken once a year at the completion of 80% of the school year. However, “educators have concluded that testing once a year does not provide sufficient evidence to inform many crucial, more frequently made instructional decisions, which has generated renewed interest in formative assessments” (Stiggins & Chappuis, 2006, p. 10). The original intention of assessments was to identify which students did not meet standards. More recently, the purpose of assessments has changed from assessments *of* learning to, assessments *for* learning. Assessments *for* learning happen in classrooms that involves students in every aspect of data and learning. It incorporates an effective understanding of teacher and student as data- driven instructional decision- makers. This takes planning and consistent understanding to make an effective assessment for learning practice. Assessment of learning refers to the process of giving students formative assessments and identifying which students mastered the content and which did not. The process helps to identify students who struggle, but does not strategically help students find greater success. However, Stiggins and Chappius (2006) have devised a sound classroom assessment practice plan with five strategic steps.

The first step is to provide a *clear purpose*. Assessment processes and results must serve a clear purpose. Teachers begin to understand who uses assessments and acknowledge the relationship between assessments and student engagement. They begin to incorporate formative assessments as assessment *for* learning, and summative assessments as assessments *of* learning.

The second step is setting *clear targets*. This means assessments reflect clear student learning targets. Teachers create student- friendly learning targets to ensure understanding and consistent value of intended learning. Learning targets should include what students need to know and be able to do.

The third step is *sound design* where; learning targets are translated into assessments that yield accurate results. This requires teachers to understand various assessment methods, and more importantly, choose assessments that will accurately assess the learning targets. Teachers will have to be reflective practitioners in order to assess student capabilities, and academic achievement, as well as their own instruction. Good assessments use various forms of questioning while, measuring unbiased results. Communication of needs and wants becomes critical in this cycle, which takes us into the fourth step *effective communication*. This step ensures that assessments results are managed well and communicated effectively. Teachers need to record data accurately, keep it confidential and figure out a cohesive way to report results to a variety of audiences: students, parents, colleagues and district stakeholders. They need to be able to use this data to inform their instruction in a manner which benefits them and their students.

Students are the most critical piece to this process, and therefore, the last step is *student involvement*. As basic as it sounds, this involves students partaking in their own assessments. Teachers become the facilitator and students become the activators. Teachers ensure students understand what they need to know and have them track their learning and begin to set goals. Students will begin to communicate their own learning and develop a sense of responsibility.

Building assessments for learning; takes time and patience to ensure they meet the needs of teachers and students. Learning teams review student data in a safe environment and are a great way for teachers to reach out to other colleagues for collaborative discussions and support. “When teams commit to shaping the ideas into new classroom practice, reflecting on the results, and sharing benefits with each other, professional growth sky rockets” (Stiggins & Chappuis, 2006, p. 14). The ultimate goals for these teams is to change assessment, practice or instruction for the benefit of students. Students are our clients whose needs surpass our own. Ultimately, their success should always be the reason behind important decisions.

Engaging Students

Engagement in education at any level is one of the most essential, components, yet complicated tasks. It has so many multi-faceted pieces that it becomes difficult to define, but that does not negate its importance and the seriousness in which it has received attention and focus over the last decade. Stiggins (2007) believes no matter what people may call it, whether it is the responsibility breakthrough or learning responsibility, but when done right it has shown that students make dramatic improvement in both academics and motivation. The student’s role is to understand what success looks like, and use assessment feedback to determine where they are and where they want to be. “We can’t let students who have not yet met standards fall into losing streaks, succumb to hopelessness, and stop trying” (Stiggins, 2007, p. 23). Assessment through the student’s eyes can put all students on a winning streak, rather than typical assessments sorting students into winner and losers. We must abandon our past thinking that teachers are the

sole proprietors of assessment consumers and data based decision makers. Students' thoughts and action within learning are as important as the teacher instructing them.

Unfortunately, too many students have had little or no experience with making academic choices. Recent behavioral science studies have shown how autonomous motivation promotes greater conceptual understanding, better grades and a more persistent approach in school. Daniel Pink's book *Drive* (2009) breaks down motivation into three distinct categories: autonomy, mastery and purpose. He contends that if these pieces are missing in the classroom, then students are limited in what they can achieve. These are critically important pieces to effectiveness of any program within a school setting. My change plan, will provide information to help engage students and change the way teachers think in regards to instruction and learning.

Autonomy

Students are not used to making choices about their learning, but it is a key component in an effective formative assessment system. Some teachers may assume that allowing students to make choices takes too long, and that they have a hard time making them. However, students who are given *learning* autonomy are more responsible. Furthermore, without student input, teachers will continue to present information to students in the same way. Let's take for example a graphic organizer for a story they just read in class. This does not allow students to apply strategies independently, but makes them relinquish their autonomy and follow what the teacher provided.

Providing autonomy builds self-esteem and creates an empowered, motivated learner who is open to trying new things. Teachers need to provide as much autonomy as possible within content, tasks, texts and assessments. We need to teach students how to

be responsible for their own learning; by allowing them to participate in tracking their learning data. Doing so will increase achievement and help them develop a sense of independence and pride when they have completed a task. It will also encourage persistence to work through struggles to learn and adapt to changing tasks, which are defining skills for the 21st century. Mastery becomes a critical piece in the adoption of engaging students within an assessment system.

Mastery

Daniel Pink defines mastery as, “getting better and better at something that matters” (Pink, 2009, p.119). A student demonstrating mastery will complete tasks because of pure satisfaction and for no other reason. They are empowered to control their reality and that creates a sense of ownership and pride when they have completed a task. Teachers need to discuss with students what the word mastery means and show examples of what it could look like in the classroom. Learning is a never-ending process, and students attain mastery at different rates and in different ways. Teachers need to provide some wiggle room for students to show growth, mastery and understanding without using the typical one- size- fits- all methods. Mastery can be defined by milestones and measurements rather than, specific guidelines set by the state or district. True learning can be measured in a variety of ways using a variety of methods.

Purpose

Pink (2009), defines purpose as the reason we are here and what it is we want to achieve. After NCLB was established, most district’s primary goal was to raise test scores. As sad and disheartening as that seems, the results from state mandated tests determine whether schools are successes or failures. If test scores remain the primary

motivation for teachers, schools and students then deep and meaningful instruction and learning will never take place. One simple question should surpass all others: What is the purpose of this lesson? This question returns to a pure focus on what is relevant and meaningful. Teachers need to redefine purpose for students in order to focus on greater objectives than just meeting state acceptable test score levels.

Csikszentmihalyi (1997, p. 131) from *Finding Flow* states, “One cannot lead a life that is truly excellent without feeling that one belongs to something greater and more permanent than oneself.” By the nature of education, teachers belong to something much greater than themselves. The most powerful experience is for teachers to pass along that gift to their students by allowing them to experience the power of their own learning. For teachers, “to build capacities to manage the complexity of situations, they require different kinds of learning. While some supports can be externally provided, many must come through a practice of leadership and learning that transforms one’s perspective” (Drago-Severson, 2009, p. 35). Drago-Severson (2009) refers to this as transformational learning. The most powerful gift that one can give a child is the power to make decisions that affect their learning and course in life. Successful decision-making often requires an analysis of transformational learning.

SECTION FIVE: FINDINGS AND INTERPRETATIONS

I did a comparative analysis between the first teacher survey given in 2015 and the one given in 2016. On the reflective portion of the survey, I looked for consistent wording, vocabulary or instructional practices terminology. The Likert scale responses were calculated based on the following categories: “Once a day”, “Once a week”, “Once a month” or “Never”. Based on the comparison of data collected in my Program Evaluation and the more recent survey I noted that there were many consistencies, but some notable differences in their responses specifically regarding the formative assessments.

Teacher Responses on the Likert Scale

Teachers’ responses in 2016 indicated that monitoring students’ instruction allows for greater insight into teaching and learning. The majority of responses on the Likert scale displayed Once a Day as a consistent response with approximately 90%. The second most used response was Once a Week with approximately 83%. There were some comments noted under the sections pertaining to how often formative assessments are given because their math formative assessments are typically given weekly based on their curriculum guide. However, those two teachers that answered Once a Day clearly defined their response by noting that they do a warm up before each math class as a review of previously taught material. The data collected on this portion is meaningful because it shows the frequency and consistency of formative assessment usage. It becomes more about the process, rather than the product itself when the usage and familiarity with formative assessments is implemented consistently within the school day from a year to year comparison.

The reflective responses were more insightful in 2016 compared to 2015. Teachers responded positively in regards to the formative assessments, and how this valuable information allows them to make better instructional decisions for students. Specifically addressing how to re-teach the whole group or small groups based on the results from each formative assessment given. Whereas, in 2015 their major concern was the formative assessments did not match their instruction so they were concerned about how to reteach the skills. It was also noted by five teachers that these new formative assessments provide the standard that each problem is aligned to, which creates easier grouping for teachers when re-teaching the concepts. Seven out of eight teachers stated that reflection has become more common because of the learning log meetings that take place weekly to review instruction, learning and assessments. They concluded that the questions on the learning log recording sheet keep them focused on what needs to be addressed and how to accomplish that task.

Reflective Answer Results

The responses from the teachers in this area were more in-depth and specific than in the previous year. The first two question asked teachers how their classroom practices support formative assessments and what that looks like. Six out of the eight teachers went into length describing how they consistently monitor student learning daily using an exit slip, a warm up problem or a few problems for homework. Based on student responses, they can then tweak instruction before they move forward. One teacher stated, “I take the last 10 minutes of class and call back small groups of students and ask them to demonstrate understanding by doing a problem I have on a white board. This helps me

prepare for tomorrow's lesson and identifies those students I need to pay closer attention to."

The next few questions were focused on what formative assessments they use besides the one provided from the math curriculum. Teachers' responses varied in this category because it was based on their comfort level and accessibility to multiple resources. Some teachers used exit slips after the class, some did warm up problems prior to class, while other assigned a few problems within the textbook. These responses are much different from the original survey because some teachers were not using anything besides their own monitoring. Their understanding of formative assessments has increased since the previous year because of the time we spent as a staff defining, outlining and explicitly discussing examples and how they can inform instruction.

The last few questions were newly added and focus on the new formative assessments, their effectiveness and the addition of learning log meetings for reflective practices. All eight teachers expressed gratitude for the new formative assessments that were written by the textbook company. One teacher stated, "It is so much easier to see which students get it and which ones don't. In the past, I used to wonder if the students didn't get the answer right because it is not being assessed the way it was taught." Another teacher commented, "I can exactly tell which point within the problem is stumping the students and sometimes it is not the whole concept they don't understand, but maybe one step within the process." Teachers should be able to assess the thinking of students through the work presented on the math assessments to explain mistakes or breakdowns taking place.

Overall, the reflective pieces of the survey helped me see how much the newly written formative assessments has given teachers the ability to use this data in a more effective and productive way. Although the system is not perfect, it has come a long way in a year because of the new formative assessments, the reflective practices of learning log meetings, and teachers using the data to involve students through conferencing. Student conferencing means the teacher student meet on an individual basis to share information about learning and data. Some teachers are so excited about the student conferencing that they have invited me in to see how they conference with students and watch the students color in their bar graphs to show their progress. Students become excited about the opportunity to share what they have learned and vocalize what they still need to achieve. The collaborative learning relationship becomes stronger when teaching and learning go hand in hand with consistent feedback, support and understanding. This may be the missing link that will cohesively integrate and improve the formative assessment system. Because of the improved formative assessment system, I would expect that we would see improvements in our MAP Data.

MAP Data

The bar graphs seen in the figures below shows the results of the MAP assessments taken in the winter of 2015- 2016 and the winter of 2016- 2017. They are categorized by every grade level and labeled with an A or B class. They are broken down by the scoring guidelines of MAP: Lo, LoAvg, Avg, HiAvg, and Hi. The purpose of this data was to identify the gains or losses seen from the winter 2015-2016 2nd graders to winter 2016-2017 2nd graders. The hope is that the changes to the formative assessment system would show improvement in the MAP scores.

The MAP test is given three times a year: fall, winter and spring. We typically measure growth from fall to spring when identifying areas of need for the upcoming year. I decided to use winter to winter data to see if the 2nd grade students are at the same place they were last year mid-year.

Figures 2 and 3 show a decrease in the students in the Lo category from winter 2015 to winter 2016. Those Lo students seemed to move into the LoAvg category which is a pleasant surprise, but still not in the range we would like to see them. The biggest concern is the decrease of Hi number of students that now fall into the HiAvg or Avg group. There can be numerous reasons for this drop. For one, these 2nd graders are being exposed to more rigorous and thought-provoking math than in previous years. The formative assessments are now more aligned to instruction than they were in the past. Secondly, second graders take MAP for the first time on computers prior to 2016. In 2016, Kindergarten and 1st graders have started to take MAP, which may also show different results next year with 2nd graders since they are used to taking the assessment on the computer. Lastly, their exposure to Common Core curriculum started this year, so there could be a lack of prerequisite skills necessary to answer the questions on MAP correctly. New curriculum takes time to show growth and change. Finally, there could be differences in students ability across the cohorts.

Figure 2. MAP data comparison, class 2A: winter 2015–2016 and winter 2016–2017.

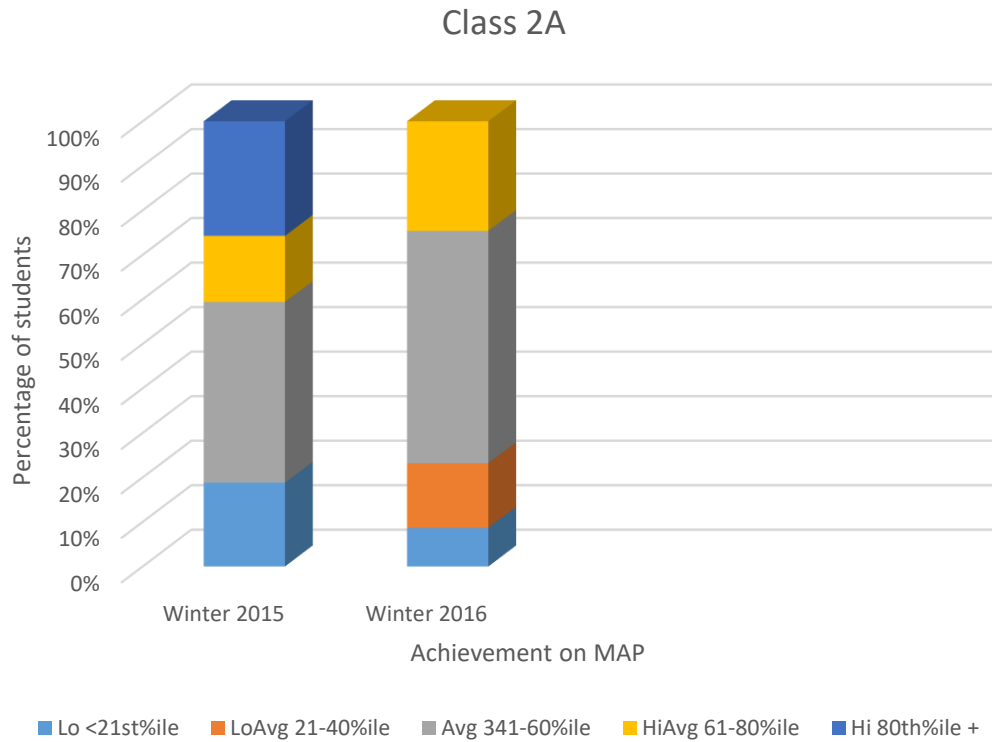
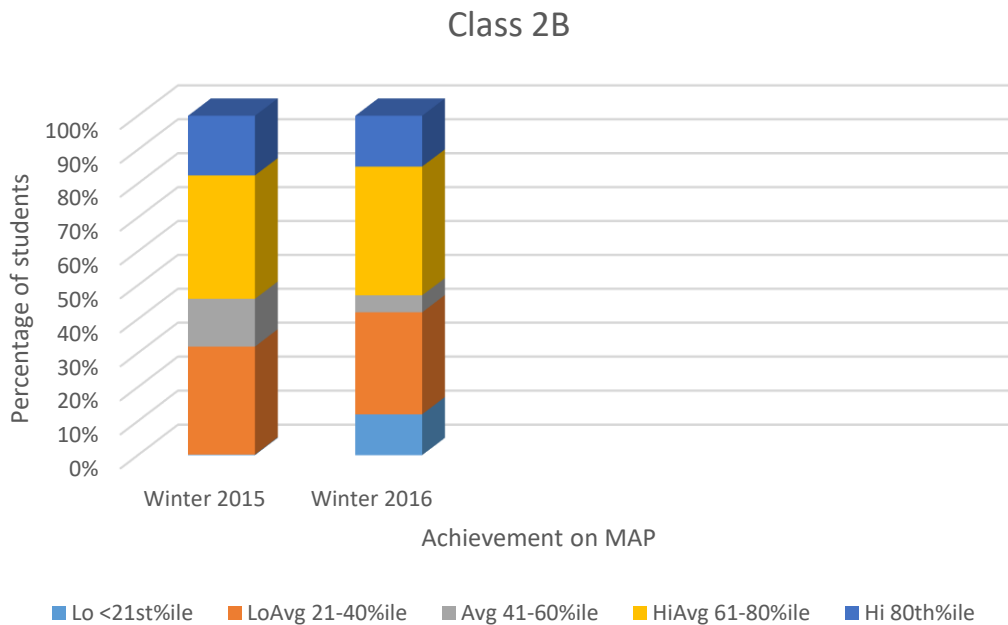


Figure 3. MAP data comparison, class 2B: winter 2015–2016 and winter 2016–2017.



2015-2016 and 2016-2017 3rd graders as seen below (Figures 3 and 4) show very similar data. It appears to have decreased some Lo into the LoAvg group, while some decreases were noted in the average group in 2016 that fell into the LoAvg group in class 3A. Whereas, class 3B seems to have done a complete shift in many categories. There were no Lo in 2015 and now there are many students in that category. There were no Hi noted in 2016, but there were a handful in 2015. This grade level typically shows discrepancies within classroom level data. There are a few theories as to why this could be occurring. One could be that one classroom teacher is much stronger teaching math than the other. Another theory could be that one of the teachers has only taught 3rd grade for two years, but the other one has taught 3rd grade for 25 years. Lastly, this is the first year that both third grade teachers are using the same resources to teach math in the same way. More discussions about instruction and learning can take place during learning log meetings to help identify any areas of improvements from an instructional standpoint.

Figure 4. MAP data comparison, class 3A: winter 2015–2016 and winter 2016–2017.

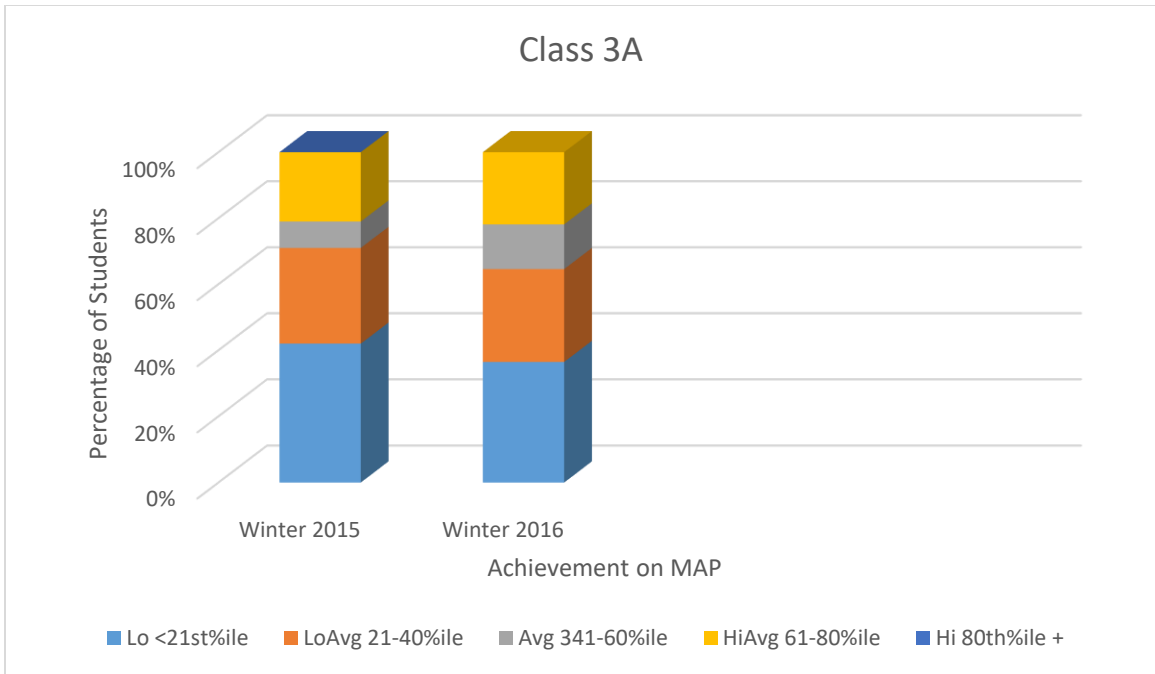
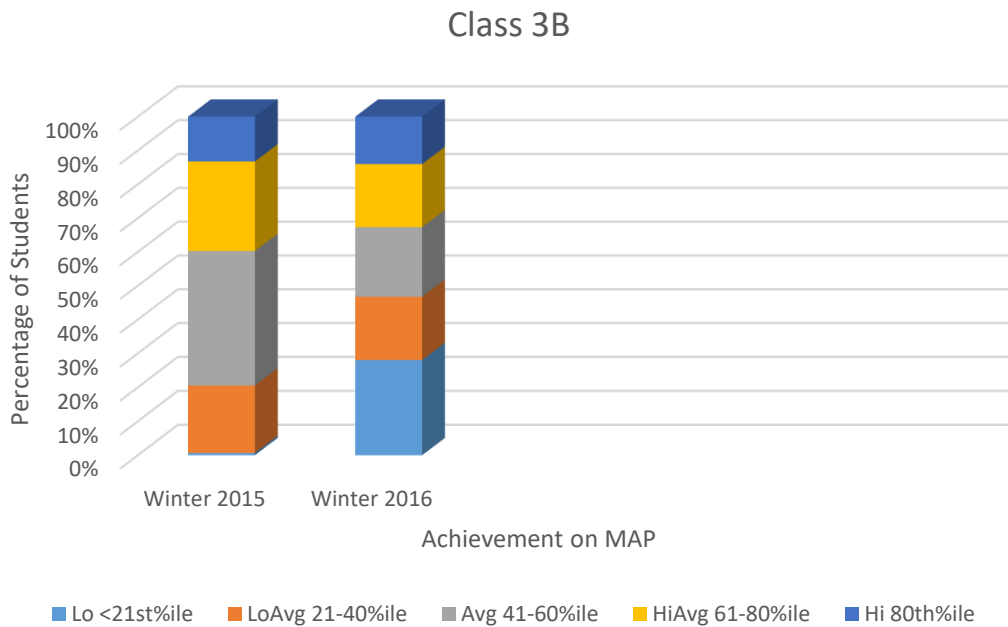


Figure 5. MAP data comparison, class 3B: winter 2015–2016 and winter 2016–2017.



The 2015-2016 and 2016-2017 4th graders below (Figures 5 and 6) show similar patterns as Grade 3 when it comes to some major areas. Class 4A is consistent within the growth and loss patterns. There are less Lo students noted in 2016 with those students

moving into the LoAvg range. While the LowAvg range lessened and students moved into the Avg range in 2016. This is the most consistent pattern of growth I would like to see in all the grade levels. However, in Class 4B it appears to have taken a different turn. The bar graphs in 2016 seem to have gone down in comparison to 2015. All the higher categories decreased in 2016 from no Lo students noted in 2015 to many students filtering down from the highest categories to the lowest. There could be several explanations for this data. One, students are now consistently being exposed to new instruction and curriculum. The teacher in classroom 4B is still non-tenured, whereas the teacher in 4A is tenured. One teacher demonstrates stronger instructional practices in math and continuously assessing students in various ways besides just giving the formative assessments. More conversations and instructional strategies will continue to be discussed during learning log meetings which should help with reflective practices of teaching and learning.

Figure 6. MAP data comparison, class 4A: winter 2015–2016 and winter 2016–2017.

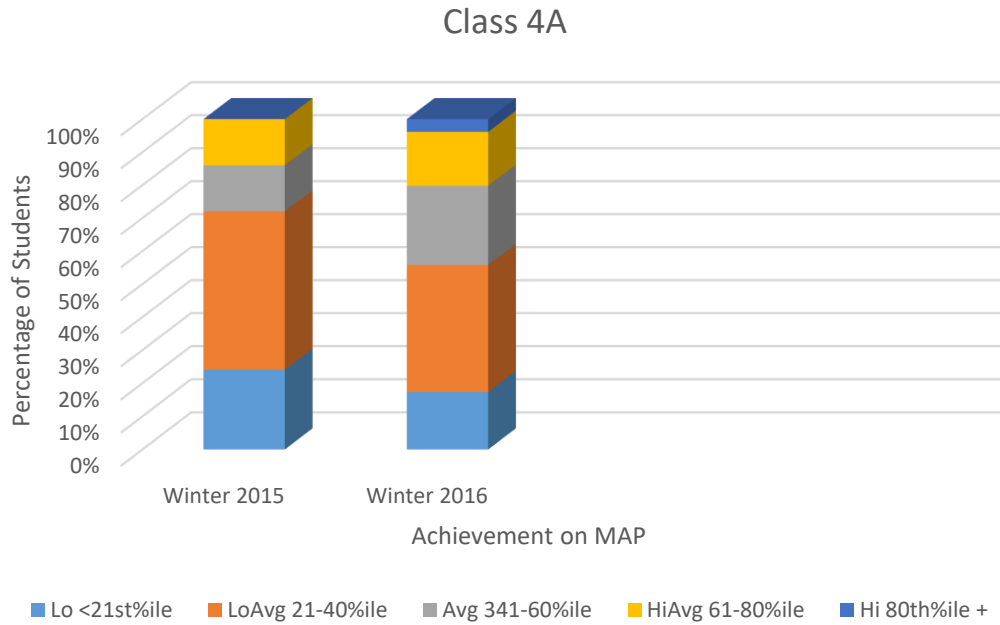
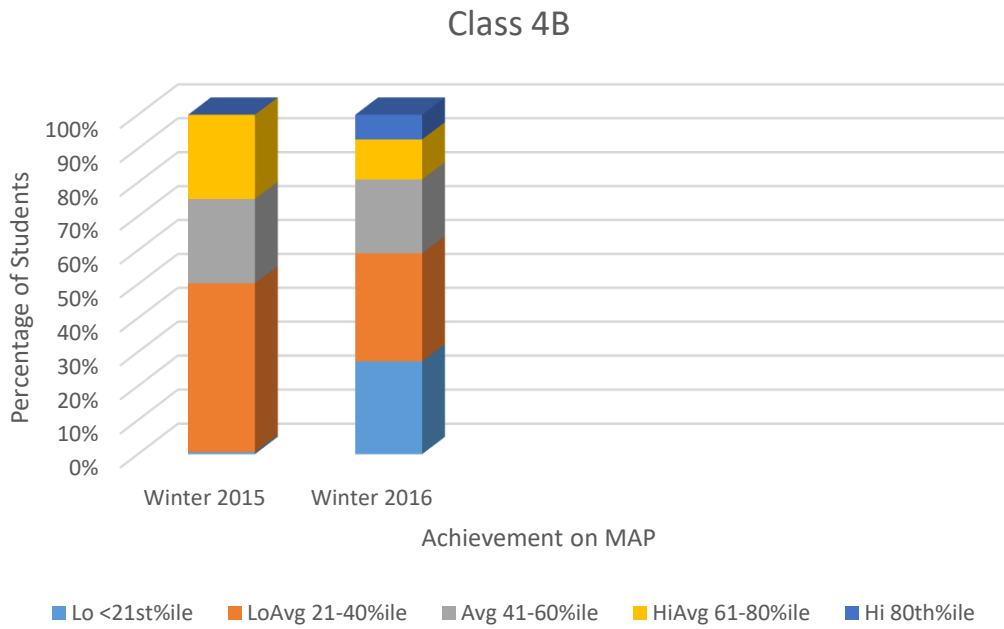


Figure 7. MAP data comparison, class 4B: winter 2015–2016 and winter 2016–2017.



The 2015-2016 and 2016-2017 5th graders data as seen in Figures 7 and 8 below, shows similar data to all the other grades previously discussed. One class shows more gains than the other, which is perplexing because both classes are taught by the same teacher. The makeup of the students could account for some variances. Even so, there should not be score discrepancies. It appears class 5A showed increases within the lower categories into the higher ones; whereas, in Class 5B it appears the opposite occurred. The bar graph seemed to decrease from the highest categories into the lowest ones. I am sure several factors contributed to this decrease, including consistency within the new curriculum; and the level of students within both classes when they came in the fall. Grade 5 is typically the highest scoring grade in both MAP and PARCC in the spring, so this winter benchmarking is not shocking, but it does make me wonder if the formative assessment system is working well for them. None of the other grades have been exposed to this curriculum until the start of the year. This makes me think that students may be lacking necessary skills to attack the math in 5th grade because they are lacking basic prerequisites that need to be taught first. I have working knowledge of this classroom, and the teacher is great instructionally. The teacher provides warm- up questions to start the period, direct instruction, small group work and exit slips prior to the end of class. There is regular conferencing and goal setting and formative assessments data is used to provide students with extra practice in deficient areas.

Figure 8. MAP data comparison, class 5A: winter 2015–2016 and winter 2016–2017.

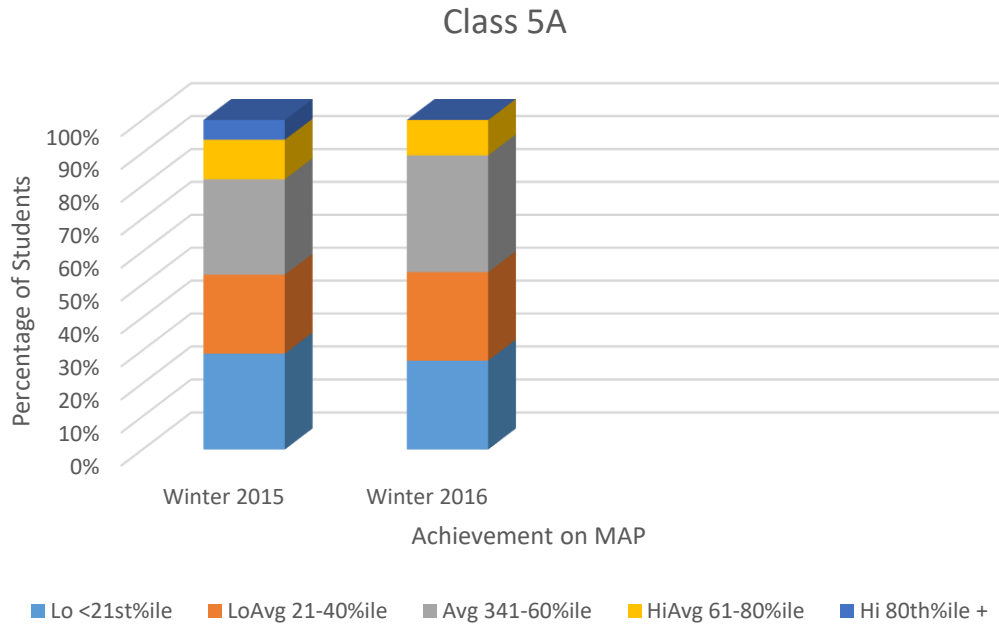
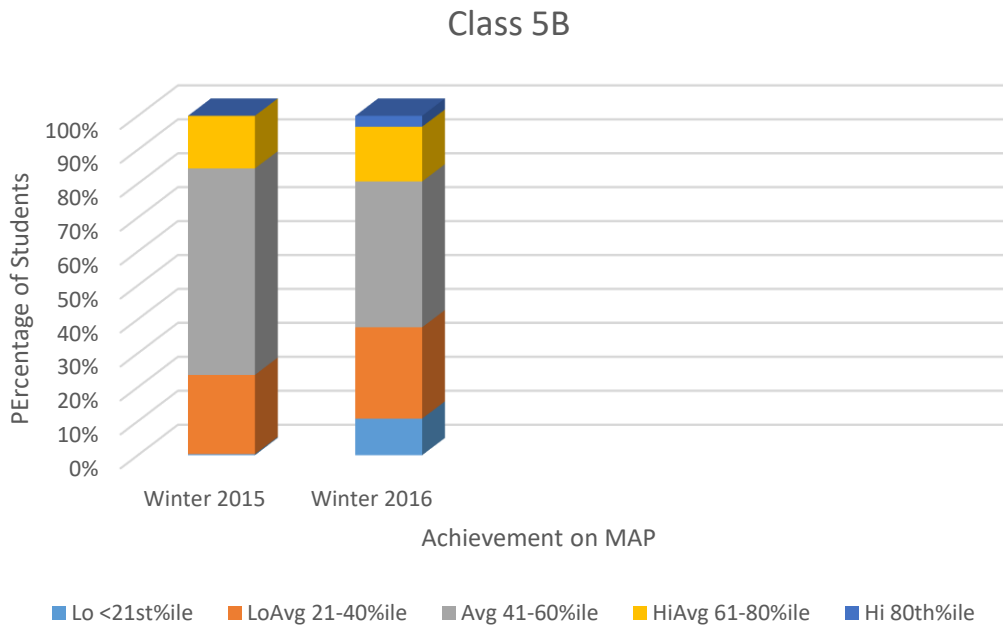


Figure 9. MAP data comparison, class 5B: winter 2015–2016 and winter 2016–2017.



The data I collected, gave me more insight into what areas still need to be addressed to create an effective formative assessment system. The new formative

assessments have provided teachers with a more effective way to collect data and use it to support instruction. The implementation of conferencing with students has added another layer of improvement within the system because of the accountability it provides students. The reflective practice of having conversations about instruction during learning log meetings force individuals to reflect on teaching, learning and assessment. No system is perfect, but the changes we have made thus far are consistently showing improvements- maybe not statistically just yet, but certainly in the areas of instruction, learning and reflection. Teachers are now comfortable knowing that when I talk about formative assessment system I am not referring to a product, but a system of effective teaching and learning. Those gains and insights are very valuable to any institution.

It is important to note that the makeup of the classrooms when talking about MAP assessment scores. Most of the grades levels have similar amounts of students with a difference of maybe one or two students. One teacher from each grade level is ESL- (English as a Second Language) endorsed, which means they take most of the students that qualify for those services. As far as ethnicity is concerned, most classes were balanced with Hispanic, African American, Mixed and Caucasian students. It is important to diverse and balanced classrooms. Although all students are exposed to the same curriculum it does not mean it is accessible to all students. I need to delve deeper into this concept to ensure I provide support and resources when necessary to create a level playing field for all students.

Conclusion

The ultimate goal for every school and district is to achieve successes as designated by the state. Ideally, the district would clearly define success and a consistent

curriculum framework. This involves developing rigorous curriculum that aligns with the standards, spending money on resources used for instructional purposes and job embedded professional development for teachers. Teacher's need to be reflective practitioners that use assessments and student's engagement to strengthen, inform, and cohesively tie together instructional practices.

The improvement of math instruction should become the focus of this change. Teacher's need to be provided with explicit professional development on math instruction. The allocation of Title 1 funds can be used for professional development outside of the teacher contractual day, and more resources, such as computer programs or a math coach, are needed to assist math instruction. We also need to ensure time for collaboration is built into scheduled school days. This may be used during SIP- (School Improvement Days), Late Start days or during Institute Days.

Instruction of mathematical concepts becomes critical when using assessments to monitor learning and instruction. Formative assessments ensure learning is taking place and can help identify any breakdown in learning. With formative assessments, teachers will have an easier time re-teaching concepts to the whole group, a small group or to an individual because of the consistency and reliability of the assessment matching what they taught. This data- based decision-making increases teacher reflection on student data. Teachers can identify strengths and weaknesses with their teaching or with a student's ability to master a skill taught.

Student assessment, learning and data are a primary focus for instructional practices, but that is not enough to achieve success. Students need to be engaged within their own learning and the process by which that happens. They need to be able to

articulate their strengths and weaknesses and where they are on the learning continuum. Teacher's need to conference with students to help them become keepers of their own learning. This can be done by having students tracks their own learning on a recording sheet. This engagement becomes the most substantial piece of achievement and successes because students become responsible learners and positive contributors to their own learning.

For a formative assessment system to be successful, it must focuses on quality instruction and reflection, data- driven decision- making, assessments aligned with standards and engagement of students. A hard and honest assessment of where we are and where we need to be will set the stage for the processes necessary to achieve those goals. Effective strategies and actions needs to be addressed, implemented and adhered to with validity and intensity. Without a vision of achievement, nothing becomes a priority. Our focus needs to be on the process; rather than the product.

“Not everything that counts can be counted and not everything that can be counted counts” (Herman, Aschbacher, and Winters, 1992, p. v). Assessments have become the cornerstone of educational reform and have moved beyond just quantifiable numbers, to incorporate human performances. We need to develop a comprehensive, systematic and integrated framework that includes instruction and curriculum; while focusing on the learning and cognition of both teacher and students. Change can only come to be when we become invested in teachers and students.

SECTION SIX: A VISION OF SUCCESS (TO BE)

Wagner and Kegan (2006, p. 120) emphasize, “that the As-Is and To-Be are tools that can be utilized to create a better understanding for fundamental change.” The To-Be allows for greater opportunity to create a vision of what success could actually look like. While I have implemented some promising changes in my school as described above, District X should consider making some strategic changes to the current formative assessment system, to ensure it is functioning at its full potential. An effective formative assessment system informs teacher instruction and student engagement. When the ideal structure is achieved in the areas of competencies, conditions, culture and context, then the formative assessment system can thrive.

Competencies

Competencies focus on the ability to carry out instruction, engage students, use data to drive instruction and become reflective practitioners. Instruction is the complex practice of teaching students that learn differently to understand the material. A teacher’s knowledge of instruction becomes fundamental when teaching math. The new Common Core standards have teachers instructing math in all new ways, using multiple strategies. This becomes uncomfortable for some teachers because this is not the way they taught concepts over the years. Teachers would go through rigorous training on how to reteach math using the new strategies. Once we ensure this is done, then teachers can begin to focus on closing the achievement gap and engaging students within that context.

Teachers will use the formative assessments provided as check – ups within the math curriculum to become reflective practitioners and assess which students are learning and which ones are not. This provides opportunities for re-teaching to occur whether it is

with the whole group, a small group or on an individual basis. Structuring such decision-making allows for greater opportunities to engage students within their learning. Teachers who are fully prepared to teach and learn with students will make the greatest impact on student achievement. They will use their data to anchor their instruction and target those instructional practices to move students forward. Learning how to teach Common Core math strategies will ensure their understanding of the task at hand, as well as, the depth and rigor required for these standards. The formative assessments will become critical to gauge teaching and learning.

Conditions

Conditions always presents the question how can we create or maintain resources, professional development and rigor of the Common Core? The new math curriculum is devised to follow the Common Core with rigor, analytical thinking and problem- solving components. With that said, with any new curriculum reciprocal professional developments needs to be provided to ensure instructional understanding, resources and additional supports. Money should be used to help supplement the materials necessary to teach this new curriculum. This new material is mostly online so teachers need to instruct students using the online component lesson, then students will complete their journal as independent practice to demonstrate understanding. It is critical to have a math coach or support system in place to ensure teachers understand how to implement the multiple facets of this program within their classrooms. In a perfect world, a math interventionist would be hired to support classroom instruction and provide interventions for struggling students. This will ensure comprehensive understanding of the curriculum and rigor for both teachers and students which, may in turn, increase scores.

Culture

“Culture of the district has to connect adults’ learning explicitly to the improvement of instruction and to students’ learning” (Wagner & Kegan, 2006, p. 114). Upper administration consistency has to be clear and deliberate for changes to occur. Our Superintendent needs to have clear communication with the board in order to achieve higher scores on PARCC. This message should then be communicated down to the Principal level, and open discussions should take place on how to achieve those above - mentioned goals. The adoption of new curriculum should have a consistent roll out plan for implementation. Consistency within the various buildings will be necessary to move forward and begin to build capacity. Sharing data collected within these programs at the district level will help the district make more informed decisions based on data. In an ideal world, the district will share multiple sources of data collected within the various programs and use that data to make decisions.

Culture becomes a mindset change and belief in that what needs to be changed is the most effective way to achieve success. The board of education is the “What” in the organization to determine the policies and changes necessary for achieving district success. The superintendent and the administrative team becomes the “how” which develops strategic plans to ensure implementation of new curriculum, provides professional development on instructional approaches and continuously monitor data. The consistency in which individuals take part in the process will create a culture of togetherness for teachers, students and the community. Teachers would be less defensive when sharing their classroom data and their struggles with curriculum and instruction if the culture of the district was supportive and healthy. Creating these types of

environments take work, collaboration and trust. Starting with small tasks to show investment and support from the upper administrative level will slowly shift the cultural perspective at the building level, teacher level, and will ultimately impact the students. “Where there is growing trust, the quality of discourse increases, again helping stimulate greater engagement and real collaboration” (Wagner & Kegan, 2006, p. 150).

Context

District X is currently emphasizing the increase in PARCC scores; by identifying areas that need improvement. The emphasis for the increase came from the reaction when the PARCC scores were made public in the newspaper. Transparency of the scores could have been presented, along with the MAP, AimsWeb, and formative assessment data district -wide to show the growth being made in those areas to identify what next steps need to be taken to increase PARCC scores. In this context, improving scores is possible by identifying areas of need and a strategic plan to make those changes while also reassuring the public that PARCC scores are just a piece of what success actually looks like. In an ideal world, the PARCC test would be used to inform classroom instruction by providing data by content standard and instantly available for teachers to use when reflecting on their instruction.

SECTION SEVEN: STRATEGIES AND ACTIONS

“By attending to the phases of a change process, leaders can lay the groundwork for movement along the continua toward the greater purpose and focus, engagement, and collaboration that are vital to successful change efforts” (Wagner & Kegan, 2006, p. 133). Change requires all individuals within a district to remain focused on the same outcomes, and to work in collaboration to achieve ultimate success. Whole system change involves strategic ideas followed and supported by fundamentally attainable actions. These strategies and actions will help me move from the As-Is to the To-Be (see Appendix C).

Strategy One: Improvement of Math Instruction

Improvement of math instruction begins by providing explicit professional development. “When leaders begin owning these problems and taking responsibility for student achievement, they model a different and more productive way of approaching problems” (Wagner & Kegan, 2006, p. 141). Providing this professional development consistently may require some work to be done during the summer or after school. Teachers are entitled to be paid for anything outside of their work hours, so some money may need to be built into the Title 1 grant for professional development. What happens to those teachers who cannot attend these sessions in the summer or after hours? They still need to be provided time within their contractual work day to collaborate with their colleagues to help strengthen their instruction. This requires all the building principals to realign the schedule to ensure teachers have common plan time with their colleagues for collaboration purposes. All of these actions may take some work, but they will ultimately create a more substantive outcome for students.

Strategy Two: Make Data-Based Decisions

“Even well-designed and implemented strategies may not always generate the intended results, and change leaders need to relentlessly examine data to assess the effectiveness of strategies underway” (Wagner & Kegan, 2006, p. 154). Data based decision- making becomes a critical component to teaching and learning. The data should be used to inform teacher instruction and decision- making on student learning. Teachers needs to become reflective practitioners and decide if the information from the data determines re-teaching to the whole group, a small group or individual students. Reflective processes include asking themselves: Do the majority of my students demonstrate understanding? Is there an extension activity I can do to ensure learning is taking place? How do I address the student that still struggle with the concept I taught? Would I change anything about my instruction of the lesson to make it better next time? Decision-making becomes priority when examining the data to create a continuum of improvement with teaching, assessing and learning. Data decision-making lays out a pathway for student learning because it assesses where they start and continuously monitors that learning to ensure we continue down the path. While there may be hiccups along the way of learning the pathway does not end, it continuous until the goal has been achieved and or mastered. Each student will not have the same starting point or ending point on the pathway, nor will they get to the end the same way. The idea is that all students receive their instruction and assessments based on where they are so that they can achieve those goals at their own pace. This is why data and decision-making is such a complex idea, because it takes time to achieve.

Strategy Three: Develop and Implement a Process to Engage Students with Data

“Accountability deepens and becomes a more meaningful guide to individual and collective actions as individual educators take on new classroom practices and collaborate in new ways” (Wagner & Kegan, 2006, p. 155). Accountability of student learning no longer rests solely on the teacher, but becomes a priority in the student’s life when they are engaged in their learning. It is imperative that teachers find a way to conference with individual students to share their data with them and identify strengths and weaknesses. Students become interactive with this data by charting their growth as they make improvements on the learning continuum. They become more invested in the process of their own learning because they know where they are and where they need to go. Strategic planning and conferencing with teachers builds a more meaningful and collaborative relationship that allows for greater student achievement. Students can access their own MAP data, analyze which category they fall into, and see what is necessary to get to the next level. Students will use their growth planning sheet before the next MAP test to set their goals for achievement. Setting strategic growth goals for themselves will help them stay focused on what they need to do to achieve those goals. This also makes them responsible for their own learning because it becomes their primary focus to work harder or more diligently on their growth. In the past, teachers told them or coached them on what they needed to improve on; now, they have access to their own learning and achievements.

A systematic understanding of the problems interfering with learning become critical when determining strategies and actions to create a future of success. Changes within all four areas: competencies, conditions, culture and context are necessary when planning for change. There is a clear and robust relationship between all four of these categories that signify the critical components to any successful district. Aspirations for the future depend on the strategies and actions set forth to lead us to the path of success not only for teachers, but students. Having hopes, goals and a vision will ensure that the process of To-Be becomes a closer reality every day.

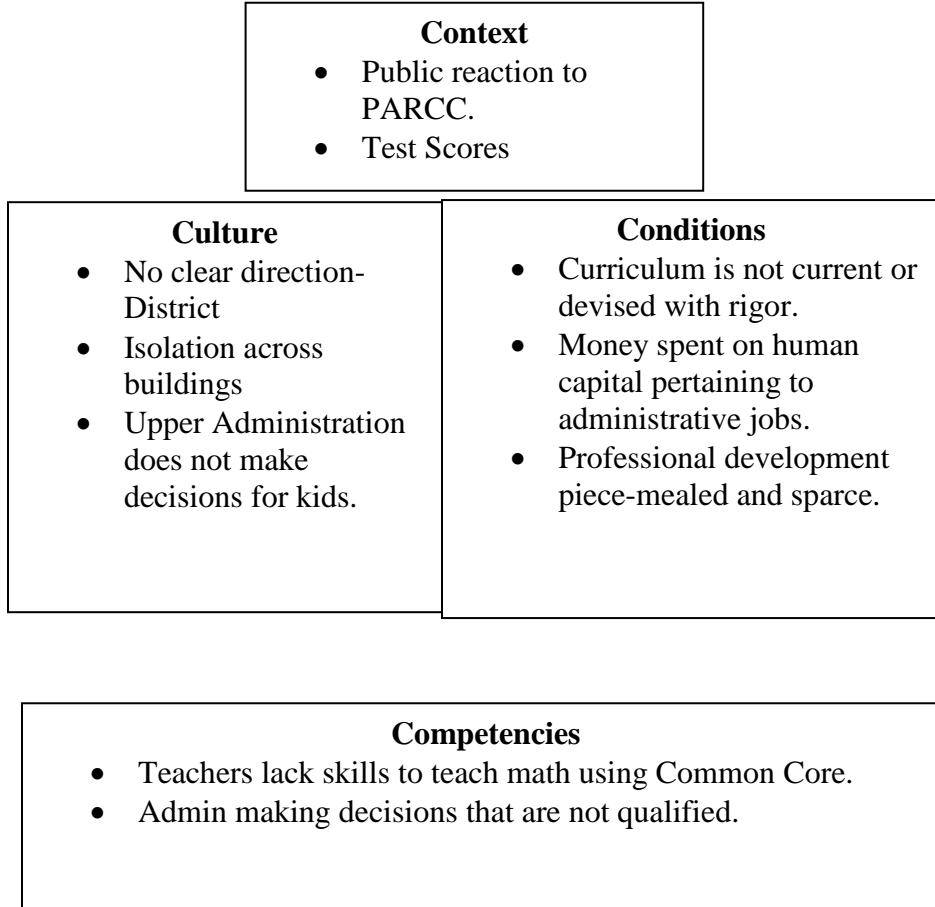
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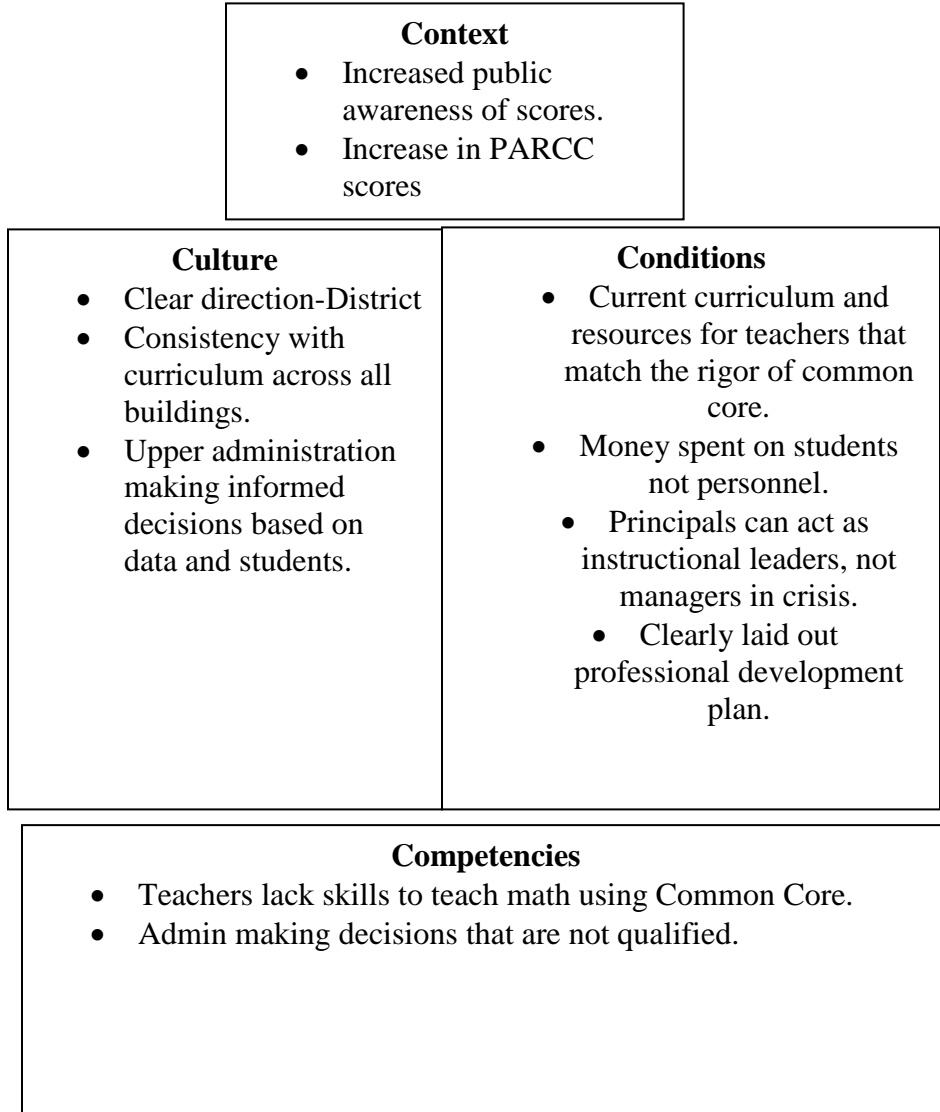
APPENDIX A: AS-IS CHART

Problem: Disjointed formative assessment system.



APPENDIX B: TO-BE CHART

Creating an effective formative assessment system that informs teacher instruction and engages students.



APPENDIX C: STRATEGIES AND ACTIONS

Strategies	Actions
Improvement of Math Instruction	Provide Explicit PD on Math Instruction -Allocate Title 1 funds -Provide more time for collaboration
Make data based decisions	Analyze student's data for: -informing teacher instruction -re-teaching (whole/small group) -increase teacher reflection
Develop and implement a process to engage students with data	Teachers will conference with individual students -show areas of strength and improvements -students will use a scoring sheet to track progress