A.5 Performance Management Plan Math Narrative

The attached PMP Math Plan provides four strategies with a list of action steps under each strategy that explain how the school will develop, implement and support a curriculum and instructional program that ensures students will meet sufficient academic progress in Math. To support this plan, the founding team has identified a baseline of student performance from which annual goals will be set and a process to evaluate the effectiveness of this plan.

A. Basis for Baseline Figures

To determine predicted baseline figures, SySTEM Phoenix analyzed demographic and achievement data from the Wilson and Phoenix Elementary school districts. The student population is expected to be a representative sample of the larger downtown community in terms of social, racial, educational, and economic make-up. All figures are based on 2012 data available on the Arizona Department of Education's (ADE) website. Since SySTEM Phoenix will begin its first year exclusively with 6th grade students, the predicted baseline for percent of students scoring proficient on State standardized assessments was calculated as the average of the percent proficient in math for 6th grade at each school within the Wilson and Phoenix Elementary school districts.[1] To calculate the baseline student growth percentile, we averaged the growth percentiles of all schools serving 6th grade students between both districts.[2]

Table A.5.1: Data Used to Determine SySTEM Phoenix's Predicted Baseline Figures

School	Math AIMS % Proficient 6th Grade	Average student growth percentile (SGP)
Wilson Elementary School	61	55
Augustus H Shaw Jr. School	33	47
Capitol Elementary School	52	59
Faith North	64	65
Garfield School	66	61
Kenilworth Elementary School	56	57
Lowell School	26	52
Magnet Traditional School	77	66
Maie Bartlett Heard School	77	62
Mary McLeod Bethune School	51	65
Paul Dunbar Lawrence School	33	52
Ralph Waldo Emerson Elementary School	49	50
Silvestre S. Herrera School	60	64
Thomas A. Edison School	44	62

[1] "2012 AIMS & AIMS A Results" for 6th grade students. [Excel Document]. Retrieved from: http://www.azed.gov/research-evaluation/aims-assessment-results/

[2] "2011-2012 A-F Letter Grades for All Schools." [Excel Document]. Retrieved from: http://www.azed.gov/research-evaluation/a-f-accountability/

Whittier Elementary School	48	47
AVERAGE	51	58

SySTEM Phoenix will use a standards-based grading system to measure academic performance. The collection and analysis of student achievement data is embedded in the process of determining student mastery levels on every grade level standard. Unlike traditional grading systems, which calculate an average overall percentage grade based on a combination of academic and behavioral performance, standards-based grading uses student mastery as the sole criteria to determine student grades. This practice ensures consistent grading practices that clearly communicate what students have and have not mastered to all stakeholders.

Although SySTEM Phoenix's model is highly focused on continually using multi-leveled formative assessment data as the basis for curriculum and instructional decisions, school-wide summative assessments goals will provide the accountability metrics necessary to measure macro student performance trends. These goals are ambitious when compared to schools in the target area and other STEM-focused schools throughout the state, yet achievable with the expectation that all SySTEM students will demonstrate mastery on all grade-level standards.

Although Arizona's state assessment may change, SySTEM Phoenix has based student goals on the assumption that the assessment will be the Partnership for Assessment of Readiness for College and Career (PARCC) exam. The performance levels used to report student performance on the PARCC are distinct from those used by the AIMS in prior years.[3] Performance levels range from Level 1 to Level 5 and represent distinct levels of achievement as detailed below:

Table A.5.2: State Assessment Scores and Nomenclature

Level	PARCC Score Nomenclature	AIMS Score Nomenclature
5	Distinguished	
4	Strong	Exceeds
3	Moderate	Meets
2	Partial	Approaches
1	Minimal	Falls Far Below

Goal: Students at SySTEM Phoenix achieve Level 4 or Level 5 in Mathematics.

- **Measure 1.01 (Growth):** *The average school level (all students) median growth score will increase each year. In year 1, 60% of students will have a student growth percentile of 58 or higher. In year 2, 70% of students will have a student growth percentile of 58 or higher.*
- **Measure 1.02 (Growth):** *The median growth score of the bottom 25% of students will increase each year. In year 1, 50% of students will have a student growth percentile of 58 or higher. In year 2, 60% of students will have a student growth percentile of 58 or higher.*

[3] PARCC. PARCC Draft Grade- and Subject-Specific Performance Level Descriptors (PDLs). (April 2013) Retrieved from: http://www.parcconline.org/sites/parcc/files/PARCC%20Grade%20and%20Subject%20PLDs%20FAQ.pdf

- **Measure 1.02 (Absolute):** *90% of all students who have attended the school for two or more years score moderate, strong, or distinguished in Math as measured by PARCC*[4].
- **Measure 1.03 (Comparative):** *All students who have attended the school for two or more years, on average, attain proficiency 15% higher than the surrounding district average as measured by PARCC.*

B. Process for Gathering and Analyzing Data on Effectiveness of Action Steps

Though the four strategies below have been separated for clarity, each one contributes to an overlapping, interwoven curriculum-instruction-assessment-professional development system. Each strategy employs a cyclical process, which uses the input and lessons from previous cycles to constantly evolve. Based on the typical " plan, do, verify" model found in the business world, SySTEM Phoenix will employ a modified cycle of "initiate, plan, execute, monitor/manage, evaluate" to ensure strategies are employed in a manner consistent with adult learning patterns.

Strategy 1: Provide and implement a curriculum that improves student achievement.

Curriculum

Curriculum decisions are based on a commitment to promoting logical learning progressions that build upon student knowledge while creating rich, interdisciplinary connections amongst subject areas. A strong understanding of research-based standards and grade level expectations is a precursor to curriculum of this type. Incoming teachers will be provided internal curriculum documents to serve as a strong foundation for entry into this discussion about both what students should be learning in each course and the indicators necessary to provide evidence of such learning. The entire first unit of 6th grade will be developed prior to hiring teachers, complete with performance-based and multiple-choice assessments as a model to be used when creating additional curricula. Furthermore, the model unit will include a breakdown of the standards into clear learning goals and success criteria to ensure clearly defined and measurable expectations for student learning. In the summer of 2014, once teachers have been hired, school staff will meet to review and adjust the curriculum according to their specific content expertise. As a result, teachers will have great models from which to learn to develop future units based on an amalgamation of Common Core and supplementary standards as well as STEM industry expectations.

Throughout summer curriculum workshops and ongoing content-based collaborative groups, teachers will continue to revise and refine student learning goals and the progressive success criteria which track student progression towards mastery in each course. The data collected at each action step reflects natural outcomes of these efforts. For example, lesson plans and observation notes will document how student learning experiences are aligned with the curriculum. Overall, student achievement data at the daily formative assessment level as well as the results of benchmark assessments will drive how the effectiveness of the curriculum is measured. As an evolving effort, curriculum documents will become

[4] On April 10, 2013, spoke with Arizona Department of Education's PARCC Director, Wendi Anderson, about setting student achievement goals in terms of PARCC. She stated PARCC scores should be compared to the Advanced Placement scores in terms of rigor. Since a "3" on an Advanced Placement exam would give students college credit, a "3" on the PARCC exam will be honored as a proficient score.

more effective over time as teachers identify areas for modification through data reflection and data analysis.

Monitoring and Adjusting Plan
The process of creating, implementing, reviewing, and revising curriculum will be formalized to ensure modifications occur in 6-week and yearly cycles. As well, time will be scheduled within the academic calendar for curriculum development workshops and job-embedded professional development days each quarter to make adjustments to curriculum based on student achievement data and feedback on the effectiveness of the curricular program. Evaluation of the curriculum will occur on yearly, quarterly, and unit intervals.

School leaders and the Academic Committee of the Governing Board will evaluate the curriculum process on a yearly basis using both student benchmark data and surveys. This will ensure it is a systematized and sustainable process that will be embedded in the fabric of the school operations each year. Given the ever-changing nature of STEM fields and research, we anticipate curriculum will need to be adjusted accordingly each year as advances in the fields are made. This structure and accountability through the Governing Board will ensure the process takes place each year.

Strategy II: Develop and implement a plan for monitoring the integration of the Arizona Academic Standards into instruction.

Standards Integration
Systems to monitor the integration of Arizona Academic Standards into instruction are coordinated with corresponding mechanisms to provide teachers with ongoing support. Instruction will be designed, implemented, reviewed, and adjusted through the Professional Learning Community framework, with a constant emphasis on reflection and improvement. Marzano explains, "even school districts that devote tremendous time and energy to designing the intended curriculum often pay little attention to the implemented curriculum (what teachers actually teach) and even less to the attained curriculum (what students learn)."[5] The connection between instruction and student achievement is best understood through a culture in which teachers are constantly reflective of their practice. SySTEM teachers will meet with each other during common planning times to share best practices and collaborate on instructional delivery methods. Furthermore, the Chief Academic Officer will use coaching sessions focused on comprehensive instructional teaching standards to promote teachers to be reflective and understand their development on a continuum of learning. Coaching sessions, lesson plan reviews, peer observations, and informal "pop-ins" are all elements of a pervasive feedback network that reinforces instructional alignment and promotes professional growth.

Monitoring and Adjusting Plan
Through transparent expectations in everything from lesson plans to formal evaluation rubrics, teachers and leadership will have a common framework to analyze instructional alignment to Arizona State Standards. Student achievement data collected at the daily, unit, quarterly, and yearly basis will be used to evaluate teacher effectiveness. Formal teacher evaluations will be at least 50% based on student

[5] Marzano, R. (2003). What Works in Schools: Translating Research Into Action. Alexandria, VA: ASCD

achievement results from state testing and school-wide assessments as required by the Arizona Department of Education.

The data from observations and assessments will also promote purposeful reflection and the creation of individualized action plans and support systems to increase instructional effectiveness. Weekly informal classroom observations, bi-weekly lesson plan reviews, and bi-weekly coaching conversations maintain a culture of professional accountability. This system also values continual growth through learning, refinement, and revision. The instructional monitoring plan will be revised based on collected survey data and teacher growth trends on a yearly basis to ensure indicators on the teacher evaluation rubric continue to have the highest correlation to student learning.

Strategy III: Develop and implement a plan for monitoring and documenting student proficiency.

Assessment

Assessments serve as the evidence of student learning. By finalizing the benchmark and end-of-year summative assessments during summer orientation, SySTEM Phoenix staff gain a thorough understanding of what mastering each standard entails and are able to develop lesson plans with the end in mind. The sequence of first identifying learning outcomes, then assessments or the evidence of learning, and finally planning instruction is commonly known as "backwards design" or "understanding by design". This process uses curriculum as a means to an end and places student learning at the forefront of each step. At SySTEM Phoenix, formative and summative assessment data provide different perspectives on student learning. Through ongoing formative assessment data, student progress towards learning goals is tracked to address immediate support needs throughout each testing cycle. Summative assessment data provides internal accountability measures to substantiate formative assessment measures and ensure student learning is retained over longer periods of time.

Monitoring and Adjusting

Assessment data serves as a key indicator of student learning and is the basis of all collaborative efforts towards increasing student achievement. As discussed in A.3 Program of Instruction, all student achievement data will be organized by Learning Goals and Success Criteria. The data will be tracked and analyzed through a centralized database to support all stakeholders in their efforts to improve student achievement. Learning Goals and Success Criteria provide a common, user friendly language for robust dialogue at all levels which include:

- Teachers design lessons based on constant evaluation of student learning.
- Students and teachers continually discuss student learning by evaluating progress towards Learning Goals and Success Criteria.
- Students are assigned to and exited from tutoring based on achievement data.
- Teachers analyze data in collaborative working teams to ensure all students learn.
- Parents and teachers will engage in Academic Parent Teacher Teams (APPT) to discuss individual student data and customized interventions plans

Additionally, 6-week benchmarks and the state-wide assessment will provide summative student achievement data. At the student level, assessment data will promote student self-monitoring and

determine intervention efforts. Bi-weekly individual coaching sessions and weekly collaborative teacher working groups will utilize this data to reflect on student achievement and maximize the connection between instructional strategies and student achievement data. Further, the governing board will review the school's progress and fulfillment of its mission in terms of this data. Overall, the ability to make meaningful decisions at every level of the school organization depends on the quality of this data. The Chief Academic Officer will ensure its consistency and reliability through quarterly longitudinal analyses of student achievement data cross-referenced with other data indicators from student attendance to teacher performance.

Strategy IV: Develop and implement a professional development plan that supports effective implementation of the curriculum.

The Professional Learning Community

Schools that function as a Professional Learning Community cultivate more effective teachers. This statement is supported by vast amounts of research conducted by giants in education reform from Richard DuFour to Robert Marzano. While maintaining a laser focus on student learning, the entire community identifies problems and seeks out the resources and understandings necessary to help students succeed. Teachers gain perspective about how overarching learning goals should affect students' daily experiences when they have an active role in the creation and discussion of curriculum. Curriculum development serves as job-embedded professional development that greatly accelerates teacher competency. Professional Learning Community advocates argue that curriculum is the number one activity teachers should engage in to impact student learning.[6]

Collaborative Working Groups

In collaborative groups, teachers will analyze data at the student, teacher, class, grade, and school level to identify trends and create action steps. The examination of this data will drive the professional teaching and learning cycle detailed in steps 20-26 in the performance management plan. Implementation is embedded within the professional development as teachers engage in action research. Group members propose strategies and analyze resulting student work to prove or disprove its impact on student achievement. Overall, collaborative groups are empowered to direct their own learning as they develop the capacity to identify problems and actively solve them.

Monitoring and Adjusting

Professional development will occur at the school, group, and individual level. Through the creation of individual professional development plans and the completion of quarterly formal evaluations, teachers will work with the Chief Academic Officer to determine the action steps most appropriate to seek professional support. Based on student achievement data and individual needs, professional development will be differentiated, taking many forms. For example, observing a colleague, redesigning a unit of study, participating in regular workshops, etc. While student achievement data will be used to create targeted professional learning experiences, staff reflections and survey data will also be used to evaluate the overall professional development program on a semi-annual basis. Throughout the school year the Chief Academic Officer will ensure alignment and provide continual professional development,

[6] Schmoker, Mike. (2012). *First Things First: Refocus Professional Development.* Phi Delta Kappan. 93(6): 68-69.

spearheading a responsive culture of reflective teaching and learning through the Professional Learning Community.

C. Process for Updating and Implementing Improvements to the Action Steps

Action steps and their place within the overall action plan will be discussed often and referenced regularly. To achieve long-term, sometimes complex outcomes, it is critical for every effort to be framed within its relationship to the bigger picture. Consistent data collection processes on everything from student achievement to teacher evaluation allow leadership and teachers alike to track progress towards established goals. By chunking long-term goals into manageable, short-term goals to serve as milestones along the way, school leadership can respond to incongruencies. Leadership will review and update the progress on each action step on a monthly basis to ensure their completion. Additionally, the evidence for each action step will be collected as dictated in the performance management plan and organized in an electronic Dropbox folder.

The performance management plan will undergo a yearly review process during the Spring semester and be adopted for the following school year. If it is determined that an action step should be changed or added during the school year, the matter will first be discussed with all individuals designated as the "Responsible Party" within the action step. Each member will give recommendations, which will be formulated into a possible revised or new action step. The proposed action step will be shared with school staff, who will have the opportunity to provide additional feedback and review. The Chief Academic Officer will be the final authority on any changes to the action plan throughout the school year. The data collection, evaluation and revision process will continue after changes have been made.