Three Building Blocks for Implementing a High-Impact Student Achievement Measures Program

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Abstract

One of the most common elements in teacher evaluation programs around the country is the measurement of a teacher's impact on student achievement. Too frequently, these programs simply comply to minimum requirements for categorizing a teacher's overall effectiveness and discount the potential for understanding, celebrating, and promoting student achievement gains. Agencies are also at risk of underestimating the significant operational and change management efforts required to implement the program. This paper provides an overview of three fundamental building blocks that were required in implementing the Student Achievement Measures (SAM) program at Achievement First and provides a brief guide and commentary for agencies to evaluate their organizational readiness in undertaking a high-impact student achievement measurement program.

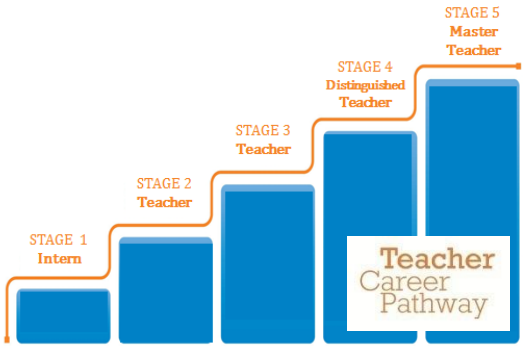
Introduction

At the heart of any attempt to identify a teacher's impact on student achievement, your agency is taking a stance on *something*. It may not be apparent, but most of the underlying mechanics of student achievement measurement are a reflection of your agency's values and standards of excellence, and the information you share with teachers provides a statement of what you think they should do with their results. This paper provides a brief description of a few areas where Achievement First has laid the building blocks for its Student Achievement Measures (SAM) program in order to embody the organization's mission and empower teachers to reflect on their classroom's outcomes. It also provides a series of questions designed to help you evaluate your agency's capacity to implement a high-impact SAM program that is consistent with its values and relevant for its teachers.

Background

Who is Achievement First? Achievement First (AF) is a charter management organization that runs charter schools in high-need neighborhoods in Brooklyn, NY and in Hartford, New Haven, and Bridgeport, CT. In 2011-12, the organization operated twenty schools with 550 teachers and 6,200 students.

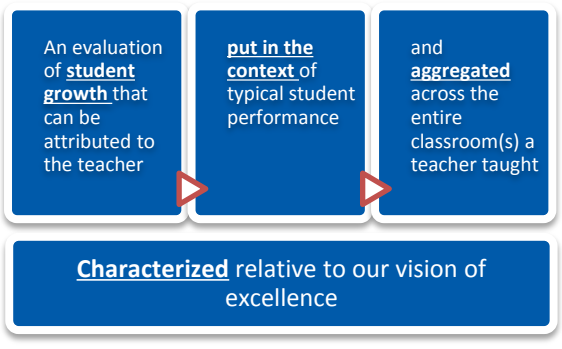
What is the Teacher Career Pathway? The Teacher Career Pathway is an initiative at Achievement First to define a framework of excellence for teaching. The program is created to develop, identify, and celebrate 'Master Teachers' and to provide opportunities for teachers to grow in their careers while staying in the classroom.



What are Student Achievement Measures? Within the teaching excellence framework of the Teacher Career Pathway, teachers are evaluated on their impact on student learning outcomes with a Student Achievement Measure (SAM). SAMs are growth-based measures using methods such as teacher value-added or other quantitative methods to be able to compare the growth outcomes of the student classroom relative to a high standard of excellence.

In this paper, we refer to the 'SAM program' as the model development, calculation, and communication of SAMs to teachers as part of the Teacher Career Pathway. Achievement First's SAM program is unique – we are working to implement the program comprehensively by creating measures for teachers for every grade and subject in grades K-12, not only subjects that are tested at the state level.

What is a SAM?



What is my role? Starting in summer of 2010, I became the project lead overseeing the implementation of the SAM program at Achievement First. Working in conjunction with the Chief Information Officer and the Senior Director of Talent Development (who oversees the implementation of Teacher Career Pathway), my work has been focused on the R&D and production of SAMs across all grades and subjects. This paper is written as the how-to-guide I wish I had in undertaking this project.

Three SAM Building Blocks at Achievement First

Building Block 1 -- Establish a Vision

Clarify your goals and end outcomes to ensure clarity and consistency.

Building Block Basics: What is it? Why does it matter?

Many agencies come to a decision to implement a SAM program indirectly. Maybe the state where the agency resides is requiring the agency to evaluate teachers based on student outcomes. Or perhaps the agency is simply trying to adjust its evaluation policies, and it seems like an obvious element to include in its framework. Whatever the case, many of the indirect routes are based in efforts of labeling teacher's outcomes – not about setting a standard of excellence or providing teachers with information to improve their practice.

In the end, the purpose of the program will drive the design and implementation of the entire work. Getting clarity at the outset will ensure the organization is building off of the same blueprint and will ensure that you have sufficiently identified the scope of the work you will undertake. Here are five key implications that are linked to clearly identifying the goals of your program:

1. Your purpose specifies the type and quality of the outputs. There is a significant difference in implementing a SAM program designed to identify the lowest performing teachers for dismissal and a SAM program that is designed to help teachers understand their performance to change their practices. If you don't articulate what the program is doing or what the stakes surrounding your measurement are, you won't be able to accurately identify the quality and scope parameters of the entire initiative.

2. You will be defining standards and providing incentives. Because measurements of student achievement place a value judgment on the outcomes of the program, you are implicitly creating a standard of what 'acceptable' outcomes are. This statement can be a powerful message to the organization on what it values, and you want it to provide a motivating force to do what is best for students. If you don't articulate your standards and systematically ensure your SAM calculations align, you are leaving the outcomes of your program to chance.

3. Your values (should) drive your assumptions. Whether you make them explicitly, the assumptions made in quantifying the SAM outcomes are a reflection of your values. For example, a measurement that identifies the top quartile of teachers as exemplary is stating that those outcomes are noteworthy, but they just happen to be the top outcomes in the organization. (Could it be that only the top 10% of teacher outcomes are truly noteworthy?) Or a program that evaluates teachers relative to the 'average' teacher (as most teacher value-added calculations do) is making an implicit statement that performing above that average is a laudable outcome.

4. How the information is used will drive reporting and skill-development requirements. Most of the dialogue on SAM programs is focused on the calculations themselves, but a high-impact SAM program is focused on the *use* of the information in the calculations. That means that the work has to encompass the supporting information to help a teacher understand why he received the outcomes that he did and to develop the skills to draw conclusions from that and adjust his teaching practices. Given the complexity of most SAM calculations, you will need to invest heavily in quality reporting, strong communications, and heavy skill building in order to translate the calculations into action-driving conclusions for teachers.

5. Transparency for teachers increases the data management implications. As both the credibility and relevance of the SAM is driven by what the teacher sees, you may need to reform your data management processes to ensure the raw data quality is robust. In a SAM program where a teacher undergoes a deep review of her data, she will want to see how every student in her classroom performed. This single facet becomes the driving force in the quality of the data management of the *many* data elements that feeds into the SAM calculation.

Case in Point: Application at Achievement First

At Achievement First, the Teacher Career Pathway is designed to help celebrate and develop excellence in teaching. In developing a SAM program to align with this overarching initiative, we focus our work on ensuring that the following three attributes are ingrained in the work:

1. Our SAM program sets a consistent, high bar of excellence that all teachers can achieve. Achievement First believes that all children, regardless of race or economic status, can succeed if they have access to a great education. We define an exemplary impact on student outcomes as the demonstration of gap-closing, multi-year gains in student learning – not simply differentiating from the average teacher.

We structure all SAMs to ensure that the SAM isn't simply a relative measure (where half of teachers will always be identified as 'below average' by construct) to ensure the bar we are creating is based on the outcomes of the classroom, not the quality of all teachers at that moment.

2. Our SAM program is comprehensive. Excellent teaching should be promoted in every grade and subject – not just the grades where there is a state test. Achievement First is pioneering the development of a K-12 SAM program in all grades and subjects.

3. Our SAM program is built for teachers to use. We focus on translating each SAM into clear, straightforward information to help teachers understand how their SAM is calculated. We also create detailed reports describing the outcomes of each individual student. Teachers will also be provided with protocols similar to those they use to analyze interim results throughout the course of the year in order to facilitate their reflection.

Building Block 2 – Create a Coalition

You can't create a high-impact SAM program on your own – the organization has to own it.

Building Block Basics: What is it? Why does it matter?

Because a high-impact SAM program is a reflection of the organization's values, it is impossible to build a SAM in isolation. It takes a wide variety of people to deeply understand student achievement, anticipate the needs of teachers, accurately calculate the highly complex SAMs, and roll out the results to teachers in a timely manner.

Developing and managing stakeholder engagement is one of the most significant challenges that you will face in implementing your program, and you will want to factor this into the scope of the work you undertake. Consider the following possible challenges:

Increased complexity. There's an African proverb that says, "If you want to go fast, go alone. If you want to go far, go together." The cost of working with a broad group of people is increased complexity – you will have to navigate, influence, and teach people with different skills through a complicated technical problem.

Limited dedicated time and resources. There is an opportunity cost that comes from having so many people focus their efforts on one major project. You will need to ensure that the organization fully appreciates the implications of this project and adequately staffs all members of the organization to participate in this work.

Specialized skill requirements. This undertaking requires a very specific set of skills and content knowledge. You may need to tap your current staff, hire specific personnel, or partner with other organizations in order to complete this work. You will want to evaluate your organizational landscape for the following roles and skills:

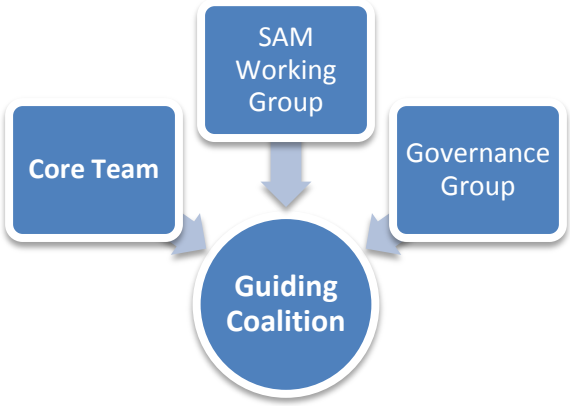
- *Organizational leader/sponsor* – An authorized decision maker who can define the vision of the program and approve the standards set for the organization.
- *Academic content experts* – For each grade/subject, an expert who understands the curriculum of your agency and how student understanding is reflected in the assessment data.

- *Teacher representatives* – Teachers who can vet for clarity and relevance and can help prepare communication materials.
- *Analytical/data contributors* – Depending on the complexity of your SAM program, you will require a wide range of data talent including analysts, statisticians, report developers, system developers, database architects, and product managers.
- *Teaching effectiveness program leaders (if necessary)* – For an agency that is implementing a SAM program as part of an overarching teacher effectiveness initiative, a leader who understands the moving parts of the initiative to ensure consistency across all evaluation measures.
- *Project manager* – A dedicated project manager who oversees the coordination, communication, and problem-solving of all moving pieces of the program.

Implementation Example

A special note on outsourcing: Because your work is a reflection of your organization's values, be cautious in what/how much work is outsourced to other organizations.

Remember that there are some things you simply cannot outsource (such as the internal project management) and that any outsourcing requires internal management to ensure your consultant/vendor is producing work that is aligned with your organization's needs.



Case in Point: Application at Achievement First.

At Achievement First, we structured three groups as part of the guiding coalition for SAM development. The following table summarizes the participants, purposes, and meeting structures of each group:

Overview of Achievement First Guiding SAM Coalition			
	Core Team	**SAM Working Group**	**Governing Group**
Key Emphasis	SAM analytical development, material development, project management	Policy development, communications management	Strategy, standards approval, project sponsorship and oversight
Participants	▪ SAM Project Lead ▪ Project / Analysis Managers ▪ Statistician ▪ Report developer ▪ Data analysts ▪ Communications/Professional Development specialist *As necessary:* ▪ Talent management system product manager ▪ Database architect	▪ SAM Project Lead ▪ Teacher Career Pathway program lead ▪ Chief Information Officer ▪ Project / Analysis Managers ▪ Teaching & Learning Representative (curriculum and assessment)	▪ SAM Project Lead ▪ Teacher Career Pathway program lead ▪ Chief Information Officer ▪ Chief Academic Officer ▪ Superintendent
Meeting Structures	Weekly risk management / coordination meetings; Semi-weekly content sharing sessions	Bi-weekly problem-solving on policy, coordination of approval processes, and communication management	Monthly or as needed governance, approval, strategy, and organizational change management

Building Block 3 – Stage Your Implementation

You can't rush SAM development – there are some pieces that have to be in place first.

Building Block Basics: What is it? Why does it matter?

Our experience is that many organizations do not have the structured project management capabilities to ensure a seamless rollout of initiatives. Because building a SAM program is a complex multi-year project, you want to evaluate your project management practices thoroughly and consider a staged implementation of the work. In order for you to ensure consistent, high quality implementation, be prepared to shepherd your organization through three distinct stages of development.

Stage 1: Data scoping and preparation – The amount of information, the accuracy, and the efficiency coming from your SAM program is all driven by the data maturity of your organization. There are fundamental data processes that your organization *must* have in place to even contemplate evaluating student achievement on a teacher level. Conduct an in-depth audit of the accuracy and maturity of your organization's data processes on the following factors:

1. *Teacher and student data accuracy:*

    - Teacher identification and profiling data must be accurately identified in a source of record such as a Human Resource Information System
    - Student enrollment data must be consistently recorded in a Student Information System, and all student assessment data must be accurately tagged with identification codes to enable longitudinal tracking
    - Teacher and student course assignments must be accurately recorded in order to ensure the appropriate attribution of student outcomes to teachers

Figure 1 – It may take up to four years to implement a SAM if you do not have test data to start

2. *Curriculum-aligned, differentiating assessments:*

    In an effort to fill out non-state-tested grade levels, some agencies adopt assessments they are currently administering without evaluating whether the assessments accurately measure the student capabilities in the course. Some tests also vary in their ability to differentiate student outcomes sufficiently. Because you need two years of data for a single SAM growth calculation (one as the 'pre-test' and one as the 'post-test'), you want to diagnose early to confirm whether you need to roll out new assessments. (See Figure 1.)

3. *System automation*:

    Manual processes in storing and transforming teacher, student, and assessment data introduce significant inefficiencies and higher likelihood of persistent data quality issues. Building and maintaining databases, data bridges, and data warehouses is a key investment in the sustainability and accuracy of your program.

What happens if you undervalue the work in this stage? The challenge with the data for SAMs is that you get one chance per year to get accurate data – if you don't have the basic data correct, you will likely be delayed for a year before you can pilot your results. You may be able to proceed knowing that the data are less informative in some areas, but you should be prepared for concerns/credibility challenges from teachers.

Stage 2: Research & Development – Once the data are compiled, you will need to develop and test prototypes of your SAM calculations. This R&D process gives you an opportunity to test your assumptions on real data, to evaluate gaps in policies or in design strategies, and to develop a standard for evaluating the quality of SAMs. The most important outputs of this stage are a detailed description of the model applied in calculating the SAM and a framework you will use to assess whether the calculations are conducted to a sufficient level of quality that can be shared with teachers.

What happens if you undervalue the work in this stage? Because a high-impact SAM program requires a consistent standard of excellence, producing SAMs without thoroughly researching their attributes could introduce significant biases and inconsistencies. Additionally, you will introduce a risk for project delays in production (when all of the teachers are anxious to see their results!) if you wait until after you have

produced the 'official' SAM calculations to identify whether you feel comfortable with them.

Stage 3: Production – In transitioning to the actual production of SAMs, next you will systematically implement your SAM calculations based on your R&D in Stage 2. You should be primarily focused on the management of your work according to your time and quality constraints. Strong project management practices in managing risk and engaging with stakeholders (remember that coalition you built!) are essential to ensure an on-point implementation.

What happens if you undervalue the work in this stage? This stage is the entire purpose of the SAM program! Assuming that you produce SAMs relative to your thorough R&D process, the biggest variant in Stage 3 is your ability to meet your milestones. The SAM program represents a significant change management process for your organization, and you will need to roll out the results on time and with clarity in order to keep teachers and school leaders engaged.

Stage 4: Program evaluation and refinement – The field of student achievement measurement is incredibly young – we are constantly learning more as a data community. Make sure you incorporate the space to improve your SAMs over time and to adjust for changes in test administration or agency policy. Debrief the process with members of your coalition, with teachers, and with school leaders to identify what is/isn't working. Then build a multi-year roadmap to systematically improve the quality of the data and the robustness of your outcomes, building feedback loops into the system as you go.

What happens if you undervalue the work in this stage? One of two outcomes could occur if you don't allow for this stage: 1) you may experience analysis paralysis where you never launch your SAM program because you are stuck perfecting your calculations, or 2) your work may quickly become obsolete as changes such as the common core remake the landscape in testing administration and data availability.

Case in Point: Application at Achievement First.

Many of the lessons learned in execution have come through an organic development process at Achievement First. To be forthright, it was difficult in the early days of development to understand how critical the Stage 1 data scoping and preparation would be. Based on early findings, the organization decided to hold off for an additional year to provide more R&D and solid production work to occur.

Achievement First will launch its first portfolio of SAMs to teachers in the Winter of 2012, and we are confident that the results will help to inform the conversation within the organization. At the same time, there are some SAMs that are less informative than others, and we are in the process of implementing a principal review process to enable principals to review the SAM outputs for the teachers and to use their context to provide the final 'performance grouping' for the SAMs for many of the teachers. We think the combination of quantitative input and principal review will provide a strong interim approach as AF continues to evolve the newly developed K-12 SAM program over time.

Conclusion

Student achievement measures have the potential to fundamentally change the dialogue around achievement in education, but it won't happen if we aren't deliberate about it. We have to choose to implement a program that is grounded in practical application for teachers. That choice is an organization-wide investment, and it will take a concerted, cross-functional collaboration to get it right. It will also take time and thoughtful attention to execution in order to turn that vision into reality. In the end, it will be a reality that truly means something for your organization – and for the students you serve.

The Idea in Practice: Questions to Ask in Evaluating Your Readiness

This is by no means an exhaustive list of questions, but it may help you evaluate places where your organization is ready to implement and what work you will need to do to prepare.

Building Block 1 -- Establish a Vision.

- What is your initial purpose in contemplating a SAM program? Is that sufficiently broad?
- What is the scope of SAM development? Does it align with the underlying purpose of the program?
- What information will teachers need in order to use the results?
- In the end, how will your agency be better from implementing the SAM program?

Building Block 2 – Create a Coalition

- Who is the organizational leader who a) knows the most about your organizational philosophy around student achievement and b) is authorized to make decisions on behalf of the organization?
- Who else should give input into the development of the SAMs? When will you engage with them?
- Is the opportunity cost of all of this work worth it to the organization? Does everyone else in the guiding coalition agree?
- Does every major work stream have a dedicated owner?
- Do you have all of the people you need to actually implement the work? If not, will you hire or contract to do that work?
- Are you working with an external vendor or consulting agency? Who is the dedicated person on staff that will manage the coordination with the vendor/consultant?
- Do you have the financial resources to implement feasibly?

Building Block 3 – Stage your Implementation

- When are you planning on sharing your results with teachers? Do you have sufficient data now in order to hit that deadline? How will you know?
- Where is your assessment data stored? teacher data? student data? Who manages that data to ensure it is complete?
- Do you have processes in place to audit the teacher and student links to courses to ensure they are set up correctly?
- How will you know that you have completed your first year of implementation?
- Do you need any accommodations (such as principal review) to ensure you are comfortable with the results going to teachers? How will you implement those?