



Children First Intensive Inquiry Team Handbook

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Preface

The purpose of this handbook is to introduce members of Inquiry Teams, or anyone interested in understanding New York City's Inquiry Teams, to the basic concepts and processes related to this work. It describes the thinking behind the choice to implement Inquiry Teams as a key element of New York City's strategy for school improvement, and it outlines each step of the process and tools that support the process.

Recognizing the importance and power, as well as the difficulty, of Inquiry Team work, many team members at schools have asked us for a concrete guide to help them with the work. This handbook is an effort to respond to this demand. We would like to clarify up front, however, that while the steps outlined here may appear prescriptive, they are meant as a guide for you to adapt as needed according to the needs of your team and your school.

Inquiry work is, in essence, about how empowered educators work together. It is about teams of teachers and administrators taking responsibility for student outcomes, which can look different in different schools. The goal in all cases is to support and build on each team member's professionalism, and to inspire each team's creative and self-motivated exercise of responsibility for accelerating student learning. We hope this handbook will prove especially useful for newly formed Inquiry Teams and new members of previously formed teams. We hope the steps outlined in the handbook will stimulate conversation and reflection for teams who have experience with the work and can discuss their own approaches to the process.

Why Inquiry Teams?

In 2007, the New York City Department of Education supported the creation of an Inquiry Team in every school as a core component of its school improvement strategy. Each Inquiry Team is charged with becoming expert in using data to identify a change in instructional practice that will accelerate learning for a specific group of underperforming students. Based on what is learned from that experience, teams work with school staff to implement and monitor system-level change to benefit all students. The inquiry model was adapted from a program called SAM (the *Scaffolded Apprenticeship Model of School Improvement through Leadership Development*), which preliminary research suggests is successful in helping teams improve outcomes within and beyond the targeted group of students, and in shifting school culture to support continual, evidence-based improvement of student learning.¹

This work is being implemented citywide because it embeds in each school the empowerment and accountability structures at the heart of the city's Children First reforms. Under these reforms, schools and principals are held accountable for outcomes related to student progress, and they are given the freedom, resources, and tools needed to achieve these outcomes. The inquiry work creates professional learning communities within and across schools, and provides space in the day-to-day workings of a school where teachers and administrators can come together and think about their practice through the specific lens of student learning. It

¹ SAM was developed as a collaboration between the School of Public Affairs at Baruch College, CUNY, New Visions for Public Schools, and the New York City Leadership Academy. For research on SAM, see Talbert, J. & Scharff, N. (2008) *Leading school improvement with data: A theory of action to extend the sphere of student success*. Paper presented at the annual meeting of the American Educational Research Association, New York City, March 24-28, 2008.

provides a framework for educators to use their empowerment and accountability in schools and classrooms to improve the outcomes of *all* children.

Theory of change

The most unexpected but essential element of the theory of change informing the inquiry process is that you make big changes by staying small. “Staying small” refers to the Inquiry Team’s tight focus on a specific skill for a small group of underperforming students (15-30) in each school. Each team examines its school systematically to understand how it produces outcomes for these students.

“Staying small” works in four ways. First, the numbers add up. If every New York City school improves outcomes for 15 to 30 students with whom they have not previously been successful, we are talking about improvement for 21,000 to 42,000 students citywide in one year.

Second, the discipline of staying small makes facing student challenges manageable. It shines a light on the gap between specific students’ learning needs and current practice, and makes it clear how small changes in practice can close these gaps. Evidence that gaps are closing, in turn, provides educators with the confidence that their work can and does make a big difference—even with the most challenging students in our schools.

Third, as we add new teams and target populations, the number of children who are reached and the number of educators whose capacity to work together to expose and address learning gaps is multiplied.

Fourth, and most importantly, the tight focus brings large change because it illuminates how the school operates as a system to produce these specific outcomes for underperforming students. By starting small and expanding from that point, we keep the focus on the students, especially struggling learners. As we understand the underlying processes that have permitted learning gaps, we surface strategic opportunities for system-level change. These opportunities for changing the system are considered leverage points. To reach our most struggling students, educators at each school need to be aware of and focused on leverage points. We will talk more about leverage points later in the handbook. By using leverage points for system-level change, this work goes beyond a traditional Academic Intervention Services (AIS) model—because it is about finding patterns across students and eventually making greater changes in a school.

Although change happens in complex ways, one simple idea drives the process. The idea is that every school has a “sphere of success,” a group of students for whom current practices are working. But no matter how effective a school is, not every child is within its sphere of success. In order to bring more and more children into that sphere, a team has to learn to do something differently. That, fundamentally, is the purpose of Inquiry Teams: for teams of educators to look closely at the practices that are not working for particular children, to make a strategic change, to evaluate the impact of that change, and then to use what was learned

to experiment with system-level changes to bring more students into the sphere of success on an ongoing basis.

How to use this guide

This handbook is intended to help support your inquiry work. It provides a step-by-step explanation of the inquiry process. It can also help you locate your day-to-day inquiry work in the larger context of school-wide planning. There is no cookie-cutter guide to school improvement. If you feel this is a lock-step process, then you are missing the power of this collaborative and creative work.

Since teams are exploring problems to which we have not collectively figured out answers, each team needs to bring its members' collective experience and intelligence to the work. We believe that if you understand the purpose of each stage of the inquiry process, you will be most able to move through steps and draw on tools flexibly and intelligently in the service of those purposes, rather than as ends in themselves.

That said, we invite you all to explore unfamiliar territory—to assume that no matter where you are beginning (a new teacher, an experienced assistant principal), we are all learning because we are putting our collective energies together to do something different as a system than we have done before.

Onward!

Overview

What is an Inquiry Team, and how is it formed?

An Inquiry Team is a group of at least three individuals from one school, including the principal, who meet regularly to engage in the inquiry process. The principal initiates the process of inquiry team formation by announcing the availability of positions through a posting. The posting describes the skills and competencies s/he believes will be necessary for effective inquiry work in the school. Staff members then apply, and the principal makes selections.

When crafting a posting and selecting members, the principal should keep in mind that effective inquiry work requires a) instructional improvement through innovation, b) a willingness to share practices and examine outcomes openly, and c) team and individual leadership development. Members might be selected based on what they have already achieved in these areas (in use of data, improving outcomes for struggling students, taking risks, and/or positively influencing colleagues). Or, they may be chosen because they have demonstrated readiness, or the ability to share and grow in one or more of these areas.

A principal should work hard to have strong representation by classroom teachers, including at least one person with expertise in a subject likely to be selected as the content focus. We recommend selecting members who have influenced or have the potential to influence practice (through formal or informal means) across the school community. We also recommend that the data-specialist be a member of the team. (*Our Inquiry Team Simulation* at

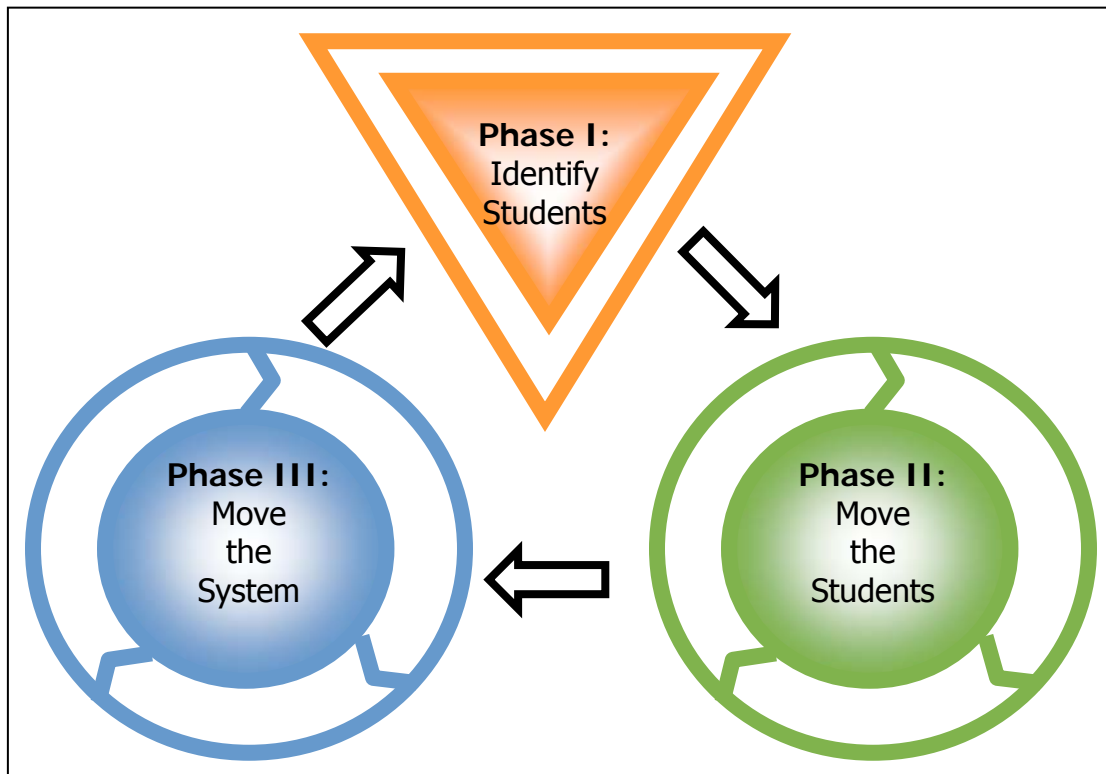
<http://acceleratelearning.net/> provides an experiential overview of the inquiry process including in-depth consideration of team formation.)

What is the inquiry cycle?

The inquiry cycle is a process through which a school team improves outcomes for a specific group of students with whom the school has not previously been successful, and learns from this experience to make a system-level change so that the school as a system continues to improve.

This cycle of ongoing improvement is illustrated in Figure A below. In Phase I, the team uses data to narrow its focus, selecting students, and identifying something small and essential that they do not know. Once the identified skill gap is sufficiently granular it is called a “learning target.” To be sufficiently granular means to be of a small enough “grain size” that a teacher would know exactly what to teach next. Note that this doesn’t mean a teacher will know the best way to teach it. But rather the teacher will know what to teach next, and what specifically he or she may need to learn to do so.

Figure A: A big picture look at the inquiry process



Phase II is entirely focused on moving target population students. In this phase, the team studies the “learning conditions” that result in target population students’ outcomes in the identified learning areas. They closely analyze, for example, what these students were taught in relation to the identified skill and/or how they were taught it—highlighting where existing practices have left gaps in students’ understanding that have left them outside the sphere of success. Based on what they discover, team members make a strategic change, monitor improvement, and demonstrate clearly that target population students can learn.

In Phase III, the team translates what was learned in moving target population students into a system-level change strategy that will benefit more students. First, they analyze the decision-making processes that produce the current conditions of learning for target population

students. For example, suppose a team discovered in Phase II that what target population students need to learn is not in the current curriculum. In Phase III they would consider how decisions are made about what is taught. Then they would decide upon and implement one system-level change to align curricular decision-making more closely with evidence of student need, and monitor effectiveness according to measurable indicators of bringing more students into the sphere of success.²

The goal in a nutshell for each phase is:

Phase I	Identify target population students and one specific area of academic weakness.
Phase II	Bring more students into the school’s sphere of success by improving outcomes for target population students in the identified area.
Phase III	Ensure that the school continually brings more students into the sphere of success by improving decision-making processes.

² In most situations, it is not recommended that teams pursue Phases II and III simultaneously—to move target population students and the system at the same time. If you choose to take this approach, please proceed with caution, being sure not to focus exclusively on system-level change (Phase III) before you have had an experience of success moving target population students (Phase II). By “experience of success” we mean that in order to move target population students, the team has had to learn something new.

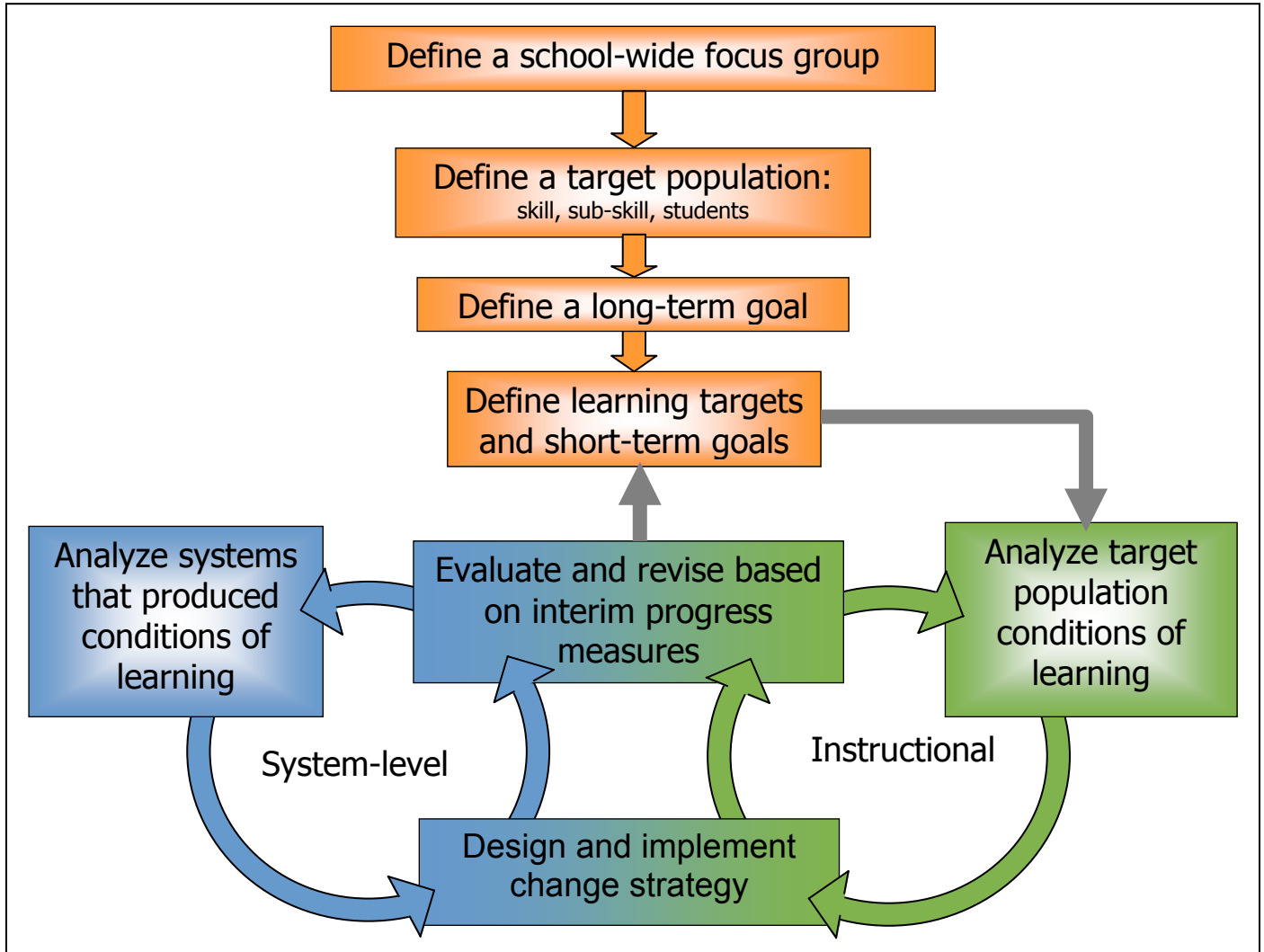
What are the steps we can follow?

We recommend the following sequence of steps to move through the inquiry cycle:

Phase I	Step 1: Define a school-wide focus group.
	Step 2: Define a target population.
	Step 3: Define a long-term goal.
	Step 4: Define learning targets and short-term goals.
Phase II	Step 5: Analyze target population conditions of learning.
	Step 6: Design and implement an instructional change strategy.
	Step 7: Evaluate and revise based on interim progress measures.
Phase III	Step 8: Analyze systems that produce conditions of learning.
	Step 9: Design and implement a system-level change strategy.
	Step 10: Evaluate and revise based on interim progress measures.

Remember that in practice, this inquiry process is more cyclical than linear. Taking one or more steps backward in the sequence *is* moving forward, because it means you have learned something new. Additionally, you may find that it works best to move through steps in a different order from what we describe. Effective implementation requires an understanding of the goals of the cycle overall and of the separate parts, so that you can proceed purposefully and strategically given the particulars of how the process unfolds in your school. You are in charge! We hope that the following more detailed flowchart (Figure B) can help you understand the relationship between the parts and the whole.

Figure B: A detailed look at the inquiry process



Ground yourselves in the big picture

Pay attention to details, but don't lose sight of the big picture. To keep yourself grounded, ask one of the following questions. They are written in everyday language and capture the essence of each phase and the entire cycle.

Phase I	What is it that these students can't do but need to be able to do? And how do we know that?
Phase II	What are we going to do to ensure they learn it, and how are we going to prove that it worked?
Phase III	What are the best next steps to make sure that our school continues to improve, and how will we prove that our next steps are working?

Phase I: Identify Students and Targets

Purpose of Phase I

To identify a group of students who are outside the school's sphere of success and one very specific thing these students do not know but need to know in order to be successful.

Steps in Phase I

Phase I: Identify Students and Targets	Step 1: Define a school-wide focus group.
	Step 2: Define a target population.
	Step 3: Define a long-term goal.
	Step 4: Define learning targets and a short-term goal.

Step 1: What is a school-wide focus group and how do we select it?

A school-wide focus group is a group of students whose learning the school is committed to accelerating. This group of children is chosen by reflecting on the school's priorities to select a specific content area, sub-population, and performance range outside the school's sphere of

success. When beginning the inquiry work for the first time in your school, we recommend that you analyze school-level student performance data in layers, as follows, to hone your focus.³

First, select a content area to narrow your search, usually either ELA or Math, although high schools may choose Science or Social Studies. Second, identify a “sub-population,” a smaller grouping of students some portion of whom struggle in that subject. Then, further narrow the group (if necessary) by delineating a specific “performance range”—a range on a measure or assessment of past or current performance that students must fall within to remain in the pool.

Examples of possible selections for sub-population and proficiency range include:

Type of School	Content Choice	Sub-Population	Performance Range
K-8	ELA	Current 3 rd graders	ECLAS-2 decoding score of 5 or less
	Math	All ELL students at the school	NYSESLAT score of beginning or intermediate
9-12	Integrated Algebra	9 th and 10 th graders in the citywide lowest third	Acuity Predictive score below 50%, or failed the Regents last June
	Social Studies	10 th graders in our school’s lowest third	Scored level 1 or 2 in ELA in 8 th grade standardized test

³ This handbook moves through each step as if you are engaging in the inquiry work for the first time. You may proceed differently in later iterations of the cycle, deciding to continue with a target population selected in a prior year, for example. (See page 66 for discussion of year two and beyond in the inquiry process.)

Each time you make a selection, you filter out some students and look more closely at the remaining pool. For instance, if you select ELA as your content focus, you will look next at sub-sets of students who are unsuccessful in ELA. Ask yourselves: With what grades, populations and proficiency-ranges is our school struggling? And/or, for what groupings of students would improvement give our school the biggest boost?

What's tricky is that there are multiple sub-sets of students who are outside the sphere of success in each content area. In choosing among these groups of students, make sure you have explored the data thoroughly, that you have a clear data-based rationale that makes sense for your school, and that at the end of step 1 you have a big enough pool so that when you narrow further in upcoming stages, you will have enough students to work with. For example, a middle school that serves 1,500 students might choose as its school-wide focus group the 85 6th graders performing at level 1 or 2 in Math. In later steps they would further narrow this group to define the target population.

Note, however, that selections at this point are tentative. Until you have selected the actual target population students and learning targets, be willing to revise earlier selections in light of new discoveries.

Tools

The Progress Report can help you identify the content focus. It will show you how students are doing generally in the different content areas. The Inquiry Target Tool (ITT) can help you see individual student information that underlies the Progress Report. Use the ITT to confirm your content focus and to sort the data in different ways. You might see patterns for particular

sub-groups of students—for example, for current juniors who entered high school with a level 1 rating in ELA, for example. You might see “outliers”—examples of students’ whose performance differs from the pattern and who might raise interesting questions in your mind. Experiment with sorting and slicing the data to try to answer your questions as they arise, but understand that there is no one “right answer” lurking inside the data. Instead, more analysis is likely to raise more questions. But the more familiar you become with the data, the more informed and specific your questions become. (See the Appendices, page 69, for a more detailed description of the Progress Report and page 70 for the ITT.)

Case Study Example: Gotham High School

To give you one example of what the inquiry cycle might look like in a real school, Gotham’s Inquiry Team explains how it moved through each step of the process. This school and team are fictional, but their story is a composite drawn from the work of real teams at real schools.

Case Study Step 1: How did you pick your school-wide focus group?

First we looked at our school’s Progress Report and saw that our “bottom one-third” students at every grade level struggle most in ELA. Plus, we figured that if our students improve their reading and writing skills, it will help them in all their subjects. So, we selected ELA as our content focus. Then we looked at the Inquiry Target Tool (ITT) and discovered something interesting: there are about 50 students in the current junior and senior cohorts who are on track for graduation in almost all of their subjects except for ELA. Sixteen of these students passed a required Social Studies Regents Exam, but did not pass the ELA Exam. We were really curious what was going on in our school—why the same students who passed a Regents in Social Studies failed the ELA.

We then decided we didn’t want to focus our Inquiry Team’s efforts on juniors and seniors, because that might be too late. We wanted to focus on 9th and 10th graders, so we would have

longer to work with the students and hopefully get greater improvement. So, we looked again at the ITT. This time we looked at earlier information about the juniors and seniors who fit the pattern we discovered, and we saw that they had mostly come into our school with a level 2 or 3 on their 8th grade ELA test. It really surprised us that some came in with a level 3 and then failed the ELA Regents test. What was going on here? We saw that many of the students had shown signs early on that they were struggling in ELA—about half of them failed the first semester of ELA in 9th grade, and many had fallen behind by the end of 10th grade in the credit accumulation they needed to be on track to graduate two years later.

So, this is what we have decided so far. First, ELA is our content focus. Second, we are looking at current 9th graders and 10th graders who a) scored a 2 or a low 3 on their eight-grade ELA test, and b) (for the 10th graders) failed one or more semesters of English since they've been in our school.

Now we have a pool of about 75 possible target population students. We've noticed that if we could get a number of these students to improve, our school would receive extra points on the Progress Report and help us make AYP. We would like to have some of those students end up in our target population, so we're going to keep an eye on them. But we're really not sure yet which 15-30 students will end up as our target population. The students we've selected so far probably struggle in different areas. It will help us to start with a narrower group that shares similar issues, so next we need to find out who struggles with what.

Step 2: What is a target population, and how do we select it?

The target population is 15-30 specific students you will study and whose learning outcomes you will work to improve for the remainder of the inquiry cycle. They are a sub-set of students selected for your school-wide focus group (step 1) who struggle in one common academic area or “sub-skill” (to be identified in step 2) and who have minimal attendance issues. This second point is critical because you will be developing an instructional strategy for these students, and you won't be able to see if the strategy works if the students aren't in school.⁴

⁴ Our point is not that schools should *not* address the problem of poor attendance, but that students struggling in this area are not the best choice for a focus group testing the effectiveness of an instructional strategy.

We recommend selecting target population students as follows:

- First, pick a skill.
- Second, pick a sub-skill.
- Third, pick the students.

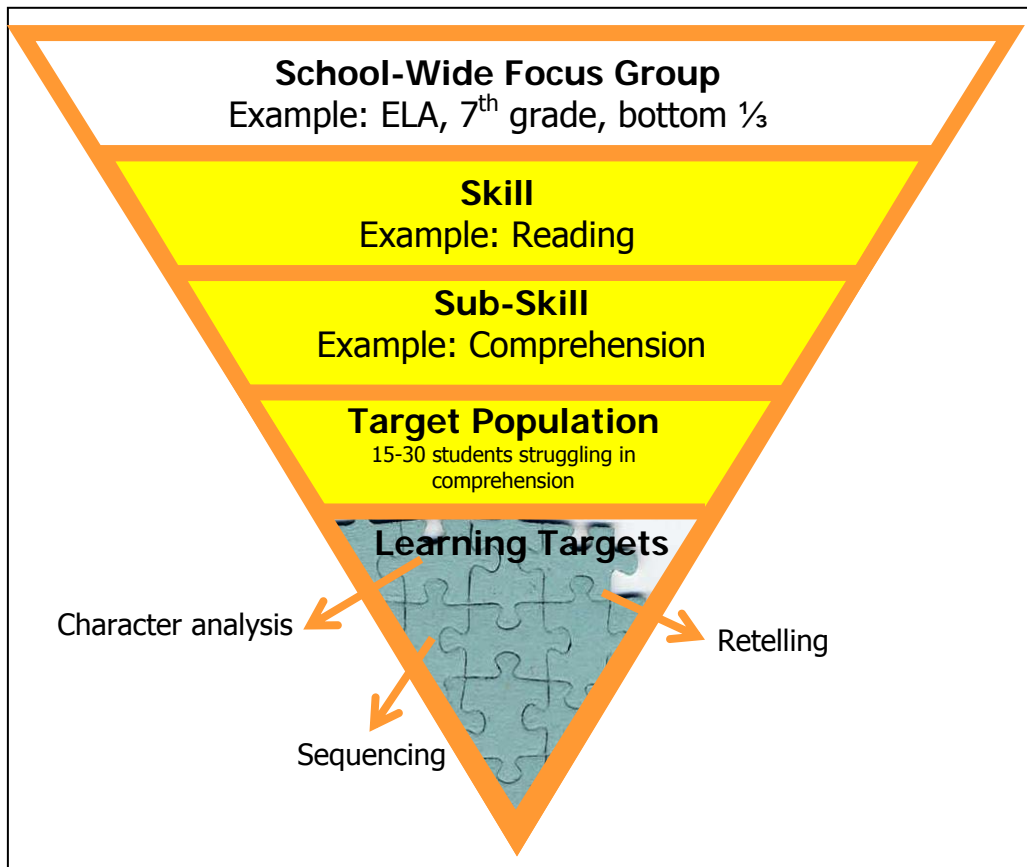
To make these decisions, first ground yourself in the overall purpose of Phase I—to use data to dig deeper and deeper until you identify very specific learning targets for 15–30 students who are outside the sphere of success. Try not to worry if you move in a jagged or circular direction toward your goal.⁵ You are likely to narrow in on a skill, tentatively select students, analyze more data, revise your skill and/or list of students, etc.

How, then, do we distinguish between a skill and a sub-skill, and how do we recommend you select them? A “skill” is one broad, essential competency in the chosen content area that selected students have not mastered. For example, a skill within ELA could be *reading* or *writing*. A “sub-skill” is a more specific component of a skill. A sub-skill in reading, for example, could be *phonemic awareness* or *fluency*. (For a list of skill and sub-skill choices, see the Appendices, page 93.)

⁵ Use of certain finely grained assessments might provide teams with a sub-skill and/or a learning target right away, and that’s great. For instance, results from a reading inventory will pinpoint a sub-skill (phonemic awareness, for instance) and learning targets (vowel blends, for instance) simultaneously. Other teams may need to use a series of assessments just to get to a sub-skill.

Think of this process of drilling down to a small sub-skill and selecting target population students who struggle with one sub-skill as an inverted triangle, as follows:

Figure C: Drilling down to a target population



There are various sub-skill options you may choose. Just be sure that the students chosen are outside the sphere of success (with good attendance), that the sub-skill selected is one you believe is important for target population students to master;⁶ and that you have a solid, data-based rationale for your choice.

⁶ If you are unsure whether a sub-skill (or learning target) is important, ask yourselves: "What are the consequences for the target population students if they *do not* learn it this year? Next year? By the end of their school career? Ever?"

And remember that there is not one right answer. Decisions are based on student performance data and other factors, including: content-specific pedagogical knowledge; Progress Report and other accountability considerations; the team’s strengths, weaknesses, interests; and access to target population students or their teachers.

Reasons could include:

For a sub-skill	For target population students
<ul style="list-style-type: none"> <input checked="" type="checkbox"/> It’s foundational. (Without it our kids can’t move forward.) 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> How can we <u>not</u> focus on these kids? (They are most in need. Or, they’ve been historically underserved.)
<ul style="list-style-type: none"> <input checked="" type="checkbox"/> It’s a “lever” sub-skill. (If kids master it, they can apply it in many content areas.) 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> There’s external pressure. (We haven’t made AYP for this sub-group.)
<ul style="list-style-type: none"> <input checked="" type="checkbox"/> It’s heavily valued on the high-stakes test. (If they get it, their score will improve.) 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> We have easy access to these kids. (Almost all of them are in the class of an Inquiry Team member.)

Tools

We recommend that you study all standardized tests required in your content area/grade (or other assessments for PK–2 students), perhaps taking the tests yourselves to understand from the inside exactly what students must know and be able to do to pass. We recommend also that you select a sub-skill that—if mastered—will help target population students successfully navigate these exams.

That said, there are a couple of reasons that student performance data from standardized tests (including New York State 3rd through 8th grade Math and ELA tests, and high school Regents) probably will not be sufficient to pick your skill and sub-skill. First, if target population students are far below grade-level, the test may not contain the diagnostic information you need. Second, each question usually addresses multiple sub-skills, so analyzing wrong answers may not tell you just where learning broke down.

More finely grained assessments you can use for skill and sub-skill selection (and in step 3 to select your learning targets) include: Performance Series, Acuity (ITAs, Predictives, and Customized Assessments), teacher-created assessments, a reading inventory (such as QRI or DRA), and student work. (See the Appendices, page 72, for a description of these and other tools.)

Case Study Step 2: How did you pick your target population?

Our next step was to figure out exactly what a student needs to know and be able to do to pass the ELA, and where they usually get stuck. One teacher on our team, Jane, teaches English. She knows the ELA exam really well, so she explained the different sections to us, and told us where she thinks kids usually get stuck—on the essay that required kids to analyze a chart or graph. We realized that it would be helpful to do an item analysis of how our students who took the test last year (including students we identified earlier who failed the ELA but passed in Social Studies) fared on the exam. The item analysis is an overall summary of student performance for each question and category—the number of students who got each question right or wrong, and the rubric-based score each student received on the essays. The item analysis showed that students overall struggled most in two areas—the multiple choice section and the chart/graph essay.

Then we pulled the actual exams for students who fit the pattern we'd noticed in step 1—the students who failed ELA but passed Social Studies. We were curious to see if there was a pattern in terms of where the students got stuck. First we tallied every answer one or more of these students got wrong—wrong answers in the multiple choice section, and scores of 3 or below for either essay. Next we took a good look at the ELA Regents that these students took.

We noticed an interesting pattern: a large percent of the questions these students missed required them to make sense of some form of chart or graph. A number of multiple choice questions required them to do this, and the chart/graph essay required this as well. When we looked closely at the essays of students who failed them, we saw that in a number of cases, students were simply ignoring the chart or graph. If they didn't mention the information in the chart or graph, they couldn't get a score above a 2, according to the scoring rubric.

We were pretty excited about what we found, and already had ideas about what we might do to help move these students. However, we realized we hadn't yet selected our target population, and we didn't know if the students we would select would struggle in exactly the same thing as the students whose results we had examined. So, we decided to give an ELA Predictive Assessment to the 75 students in our school-wide focus group, and to select a skill and sub-skill based on the results. We were already beginning to think about how much access we would have to students once we selected them. We were concerned that of the 75 students picked so far, the team members didn't actually teach most of these students. So, we decided that we would also give the Predictive Assessment to all the students in our English teacher's 10th and 11th grade English classes. Jane really wanted to see how students in her class would fare. Once we got the results, we'd see where we wanted to go next.

We gave an ELA Acuity Predictive Assessment to 127 students—75 selected for our school-wide focus group and 52 from Jane's classes. Students took the exam online, which meant the computer automatically created an item analysis, student-by-student and for the group.

We looked at the Acuity print-out and saw that problem areas were similar to but not exactly the same as for prior students. This group of students struggled most with the chart/graph essay, just as Jane had predicted. Therefore, we selected "writing" as our skill. Many more than 15-30 students failed the chart/graph portion of the diagnostic, however. So, we decided to pull all students who received a 3 or below on that section, and to look closely at each student's essay to pick a smaller group of students who struggled with a similar sub-skill.

We decided to use the ELA scoring rubric to sort the essays. For each essay, we picked categories on the rubric in which the student struggled most. For instance, some students struggled most with "organization," others with "evidence" or "development."

A large group of students—including those in Jane's class—struggled most with "organization." We noticed overall that students didn't have a controlling idea—that their thoughts were all over the place. So, we picked "organization" as our sub-skill. This allowed us to pick our target population as well. We identified 20 particular students—eight of whom were in Jane's classes and the rest of whom fit other requirements in our school-wide focus group, who received the lowest scores on "organization" in their writing.

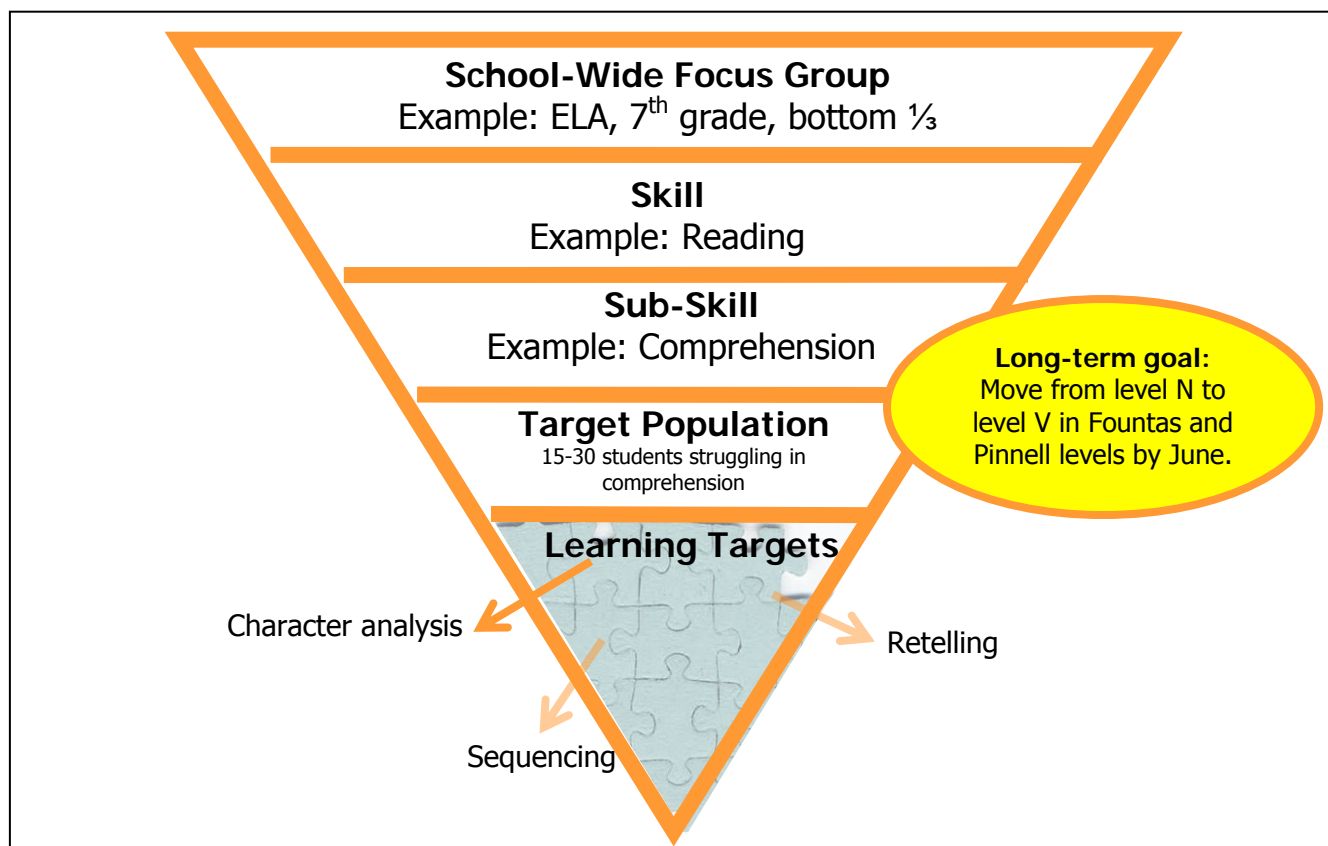
Step 3: What is a long-term goal, and how do we select it?

Long-term goals

To measure your progress, you need to establish a baseline and a long-term goal. The assessment tool you used to select your sub-skill can also provide a baseline—each target population student’s current performance in the identified sub-skill.

To set a long-term goal, specify the amount of progress or a specific performance goal your selected students will meet in the identified sub-skill by a specific date.

Figure D: Setting a long-term goal



Your long-term goal should be challenging but achievable. Because the goal of inquiry work is acceleration, the goal should reflect more than 1½ years' growth in one year. (Some assessments are not as good as others at measuring progress in years, and it is not necessary that you be able to quantify a particular number of years of growth. The key point is that we are trying to accelerate students' learning and/or help students performing below grade level to catch up quickly.)

Case Study Step 3: How did you pick your long-term goal?

We decided on a long-term goal—that every target population student would get a score of a 4 or 5 on the chart/graph essay by June. (Jane wanted to be sure that each Junior in the group that she taught could pass the ELA by June. We decided that would be her personal goal, and that the Inquiry Team work would help her meet it, but that it wouldn't be included in our official long-term goal.)

Step 4: What is a learning target, and how do we select it?

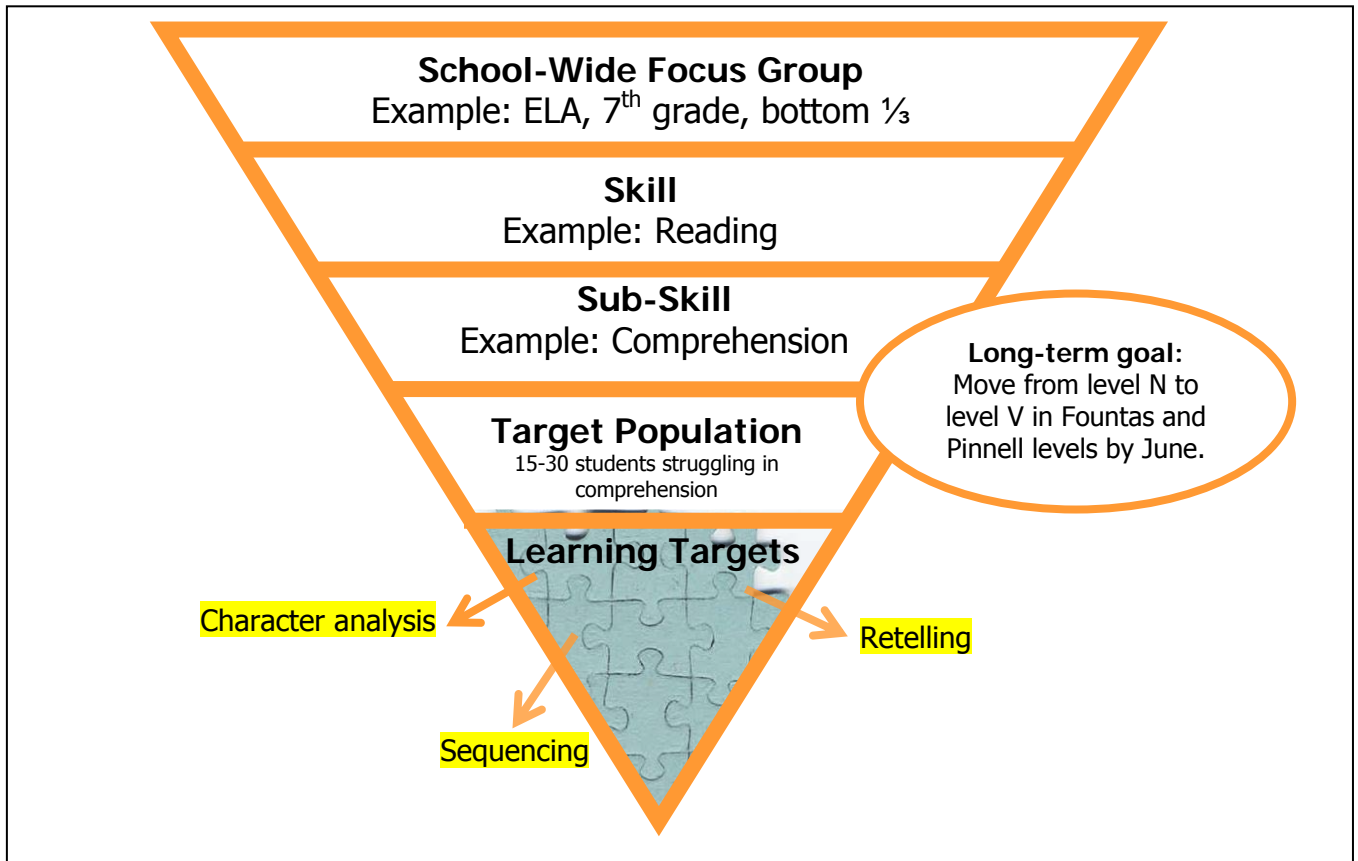
What is a short-term goal, and how do we select it?

A learning target is the one specific thing that a target population student needs to learn next. It is a smaller component of a sub-skill, and it is sufficiently granular (the right grain size) if a teacher knows from that learning target what exactly s/he would teach next. Note: that doesn't mean you will know the best way to teach it. (See the Appendices, page 93, for a list of learning targets in each skill and sub-skill.)

This is not a perfect gauge—team members won't always agree on whether the learning target is small enough. But asking whether or not you'd know what to teach next and whether it's something that target population students really need to know can be your guide. We are talking about something very specific. All target population students might struggle in phonics, for example, while four students struggle most with decoding blends. Please note: knowing what to teach next doesn't mean you will know the best way to teach it. You will know *what* exactly to teach next, and what specifically you need to learn to teach it to the student.

Target population students share a sub-skill, but they may have different learning targets. All target population students might struggle in phonics, for example, while only some might struggle most with decoding blends. Dividing the target population into clusters that share learning targets enables a team to adjust the composition of sub-groups flexibly and modify short-term goals as needed.

Figure E: Setting a long-term goal



Team members won't always agree on whether each learning target is small enough. Asking what to teach next, and whether it's something the target population student really needs to know, is one useful guide. In any case, we are talking about something very specific. Target population students generally struggle with multiple learning targets per sub-skill. Once a student has demonstrated mastery in one learning target, an Inquiry Team can move to the next. It is important that teams focus upon and ensure that each student demonstrate mastery in one specific learning target at a time, and that you monitor and track progress throughout the inquiry cycle. This allows you to adjust learning targets based on evidence of student performance.

Selecting and staying focused on moving students in one small, measurable learning target at a time is, we have found, one of the hardest but most important elements in the inquiry process. Perhaps this is partly because we are not practiced as a profession in looking at and talking about evidence of very specific learning needs. It may also be that people wonder how focusing on something so specific will get target population students where they need to go. However, we believe, and research suggests,⁷ that the discipline of staying small and focusing on specific learning targets makes the difference: it makes the work of facing student deficits manageable and changes the nature of the conversation from generalizations about student failure to specific evidence of what students need to know and how teachers can help them learn it. Remember also that you won't stay small forever. Once you have had an experience of success moving selected students in something small, you will translate what you've learned into a system-level change to continue helping these and other students.

An underlying belief about accelerating learning

Our emphasis on getting small is grounded in evidence about how student learning can be accelerated. We believe that a student who has fallen behind in an important skill is likely to be missing one or more, but not all, of the fundamental building blocks needed for mastery. Supplying a missing instructional building block that has impeded learning, or correcting a specific misconception, can often allow for big jumps forward.

⁷ Talbert, J. & Scharff, N. *Leading school improvement with data: A theory of action to extend the sphere of student success*. Paper presented at the annual meeting of the American Educational Research Association, New York City, March 24–28, 2008.

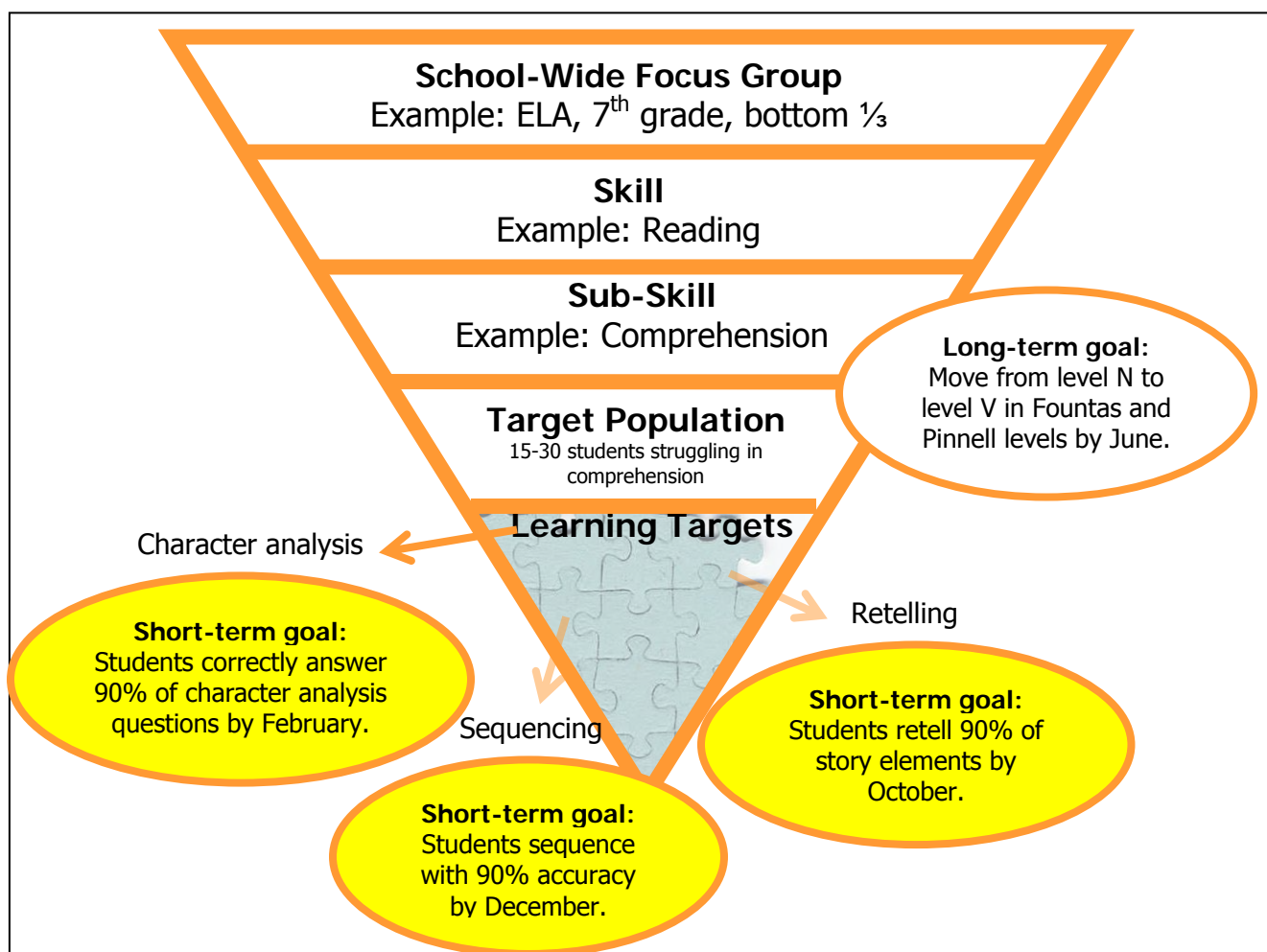
Tools

Accurate learning targets depend upon assessments that are aligned with what students need to know and do to be successful, and that give this information in a finely grained way. If you already have assessments that do this, use them! Or perhaps you have other instructional materials that you can tweak. Ask yourself, “what do we already have that will tell us what exactly target population students know and what they need to learn next?” If you do not currently have a way to get this information, then you need to find or create a way. We recommend that you take time to evaluate the quality of each assessment you plan to use based on its content (what it tests) and its form (how it is designed). (See the Appendices, page 74, for recommended questions to assess your assessments.)

Short-term goals

Once you have defined the first few learning targets, you should establish short-term goals—a specific amount of progress or a specific level of performance that selected students will meet in each learning target by a specific date. The assessment you used to identify learning targets should provide your baseline and a way to measure target population students’ progress (or lack of progress) toward your short-term goals.

Figure F: Defining short-term goals



Tools

When setting dates for short-term goals, consider the grain size of the learning target. If the target is very small, you may be able to show progress and move on to a new target within a few days. If the target is larger you may work on it for several weeks. It may help you to map out dates for meeting a series of learning targets that collectively allow a student to meet a sub-skill goal, but be aware that as you implement your instructional strategy (in Phase II), you may need to adjust your calendar.

A few words on the word “assessment”

The word “assessment” is often associated with standardized (state) tests. When we use the word “assessment” here, we are referring to *anything* that provides useful information about what a student knows or doesn’t know. This can include class assignments, homework, teacher notes, formative or periodic assessments, low-inference observations, etc. Summative and/or standardized assessments may be useful for this purpose, but in some cases are not designed to provide the kinds of finely grained information you need to identify exactly what students know and don’t know, and to design instruction to meet their needs.

Case Study Step 4: How did you pick your learning targets?

We realized that we didn’t really know what each target population student needed to learn next. Most of us aren’t English teachers, and we aren’t trained in teaching writing, so we assumed that our colleague Jane would know what exactly each student would need to learn next based on the scoring rubric. When we asked her to explain it to us, though, it wasn’t really making sense. Finally she explained to us that the scoring rubric for the ELA is pretty general—that it doesn’t actually tell you what each student needs to learn next at the level of specificity required for a learning target. So, we needed to figure out how we would get that information ourselves.

Our first step was to determine the different components that make up the sub-skill of “organization.” We talked about this for awhile, and Jane consulted with some of her colleagues in the English department. After meeting with them, she came back and told us that her Chair had suggested we look first at organization within one paragraph—that this might help us to zoom in more quickly on where students are getting stuck. Jane felt that if a student could write a strong paragraph, it wouldn’t be that hard to teach the student to write a longer essay. Some people on our team were a little uncomfortable with that. They wondered how focusing so specifically on just one paragraph could get us where we needed to go any time soon. But Jane felt strongly—and when we looked at the recommendations for picking learning targets, we saw that they need to be pretty small and realized that the existing rubric for ELA examines categories that are too large to learn what we needed to know about our target students. So, we developed our own rubric just for evaluating the organization of a

chart/graph essay and used our new diagnostic tool to re-score the essay. No student scored a 5, so we knew we had our work cut out for us.

	5	4	3	2	1
Organization: <i>The extent to which the paragraph exhibits direction, shape, and coherence.</i>	<i>Has a controlling idea, logical progression of supporting details and ideas, and clear sequencing of information.</i>	<i>Has a controlling idea and basic structure. Logic and/or sequencing of the ideas is difficult to follow.</i>	<i>Has a controlling idea, but there is minimal supporting detail; what is there is not logically developed or sequenced.</i>	<i>Has a controlling idea but no details.</i>	<i>No controlling idea. Details are present but logic and sequencing is haphazard.</i>

Of our 20 target population students, one student scored a 4; 16 students scored between 1 and 3; and three students didn't even score a 1 on our rubric! Interestingly, these last three students were in Jane's classes. These students basically didn't write anything for the essay—in two cases just some random words were on the paper. One student didn't write anything at all.

We decided that the three students who didn't score at all probably needed to work on pretty much everything, so we tentatively differentiated them (in terms of learning targets) from students who scored a "1." Then we sorted our students into one of the following three learning targets, based on their score:

- *Controlling idea*
- *Supporting detail*
- *Logical development and sequencing*

Different students would need to work on one, two, or all three of the above learning targets to meet our larger goal of a 5 on our new rubric.

Next we realized that our sub-skill goal was about the chart/graph essay, rather than just about "organization," so we had a discussion about whether or not to revise that long-term goal. On the one hand, we did want our students to be able to write a strong essay, the sooner the better. On the other hand, we didn't want to confuse our work, and we wanted our sub-skill goal to be tightly aligned with our learning targets. So, we decided on short-term (learning target) goals that would all be completed by January—identifying specific dates by which each target population student would meet the one, two, or three learning target goals he or she needed.

Phase I

Notes & Questions:

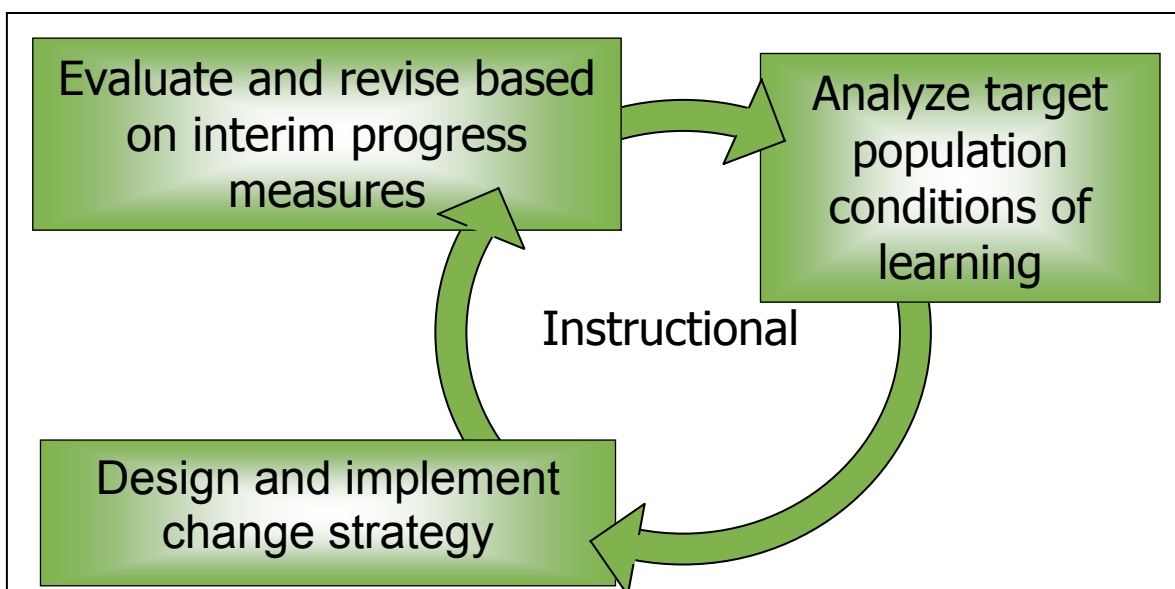


Phase II: Move the Students

Purpose of Phase II

To design and implement an instructional change strategy that results in improvement in the identified outcomes for target population students.

Figure G: The Phase II cycle



Steps in Phase II

Phase II: Move the Students	Step 5: Analyze target population conditions of learning.
	Step 6: Design and implement an instructional change strategy.
	Step 7: Evaluate and revise based on interim progress measures.

Step 5: What are the target population students' conditions of learning, and how do we analyze them?

We define the “conditions of learning” as the conditions under which target population students learn the identified sub-skill and learning targets in your school, and over which educators in your building have control. We believe that these conditions are created largely by decisions in the following four areas:

1. What is taught (curriculum)
2. How it is taught (lesson design)
3. How well it is taught (teacher practice)
4. Who teaches it (teacher assignment and student grouping)

Remember that the “it” above refers specifically to your sub-skill and/or learning targets, and that the purpose of this step is to understand how the current conditions operate to produce the specific outcomes you have identified for your target population.

The thinking here is that current conditions, by definition, produce current outcomes for students within and outside the school’s sphere of success. What’s different about the Inquiry Team strategy from many others is that we are asking you to examine current conditions through the lens of target population students—to shine a light on how specifically the learning conditions operate for those students who are not successful. This may be different from the way in which those same learning conditions impact students who are successful.

Some people think this is a negative or pessimistic approach. We see it differently. We think that educators are smart and hard-working, but that no matter how well a teacher or school is doing, there is a place where we get stuck, a group of students for whom what we are currently doing is not working. This is the place where we begin.

We suggest that you analyze target population students' conditions of learning by looking first at "what" is taught. In our experience, most Inquiry Teams bump up against and first need to address a problem in this category. Specifically, they uncover some misalignment between what target population students need to know and what they're taught. If you explore "what" deeply and are confident that your sub-skill and learning targets are taught to target population students, then it makes sense to move to "how," "how well," or "who."

It is important to frame conversations about current conditions not in terms of blame, but as examinations of what evidence suggests is working and what is not for target population students. Remember that current conditions got you where you are—they produce your current sphere of success, as well as current limitations to that sphere.

What is taught (curriculum)

To analyze what is taught that results in current outcomes for the target population, gather and analyze evidence to answer the following:

1. Is the sub-skill currently taught to target population students?
2. Are the learning targets currently taught to target population students?

3. If yes to both, then when and how often are the sub-skill and/or learning targets taught to target population students?

Stay focused on the actual sub-skill and learning targets, and distinguish the *intended* curriculum (what's written in a curriculum map or lesson plan) from the *implemented* curriculum as actually taught. You are primarily concerned with the latter, the curriculum as it is actually taught.

Tools

To understand “what” is taught, examine evidence of the intended and the implemented curriculum in relation to your sub-skill and learning targets. You might look at a text book, curriculum map, lesson plans, notes from teacher interviews, and low-inference transcripts—verbatim recordings of exactly what is said in a class. (See below and the Appendices for more detail about conducting and analyzing low-inference transcripts.) Transcripts can reveal the most about the implemented curriculum, since they capture what teachers and students said and did, as opposed to what's written on a plan. But, do not use them to justify claims for which you have insufficient evidence. (It's likely you did not transcribe all relevant classes.) And be careful to hold-off analysis of “how” or “how well” before you have fully decided about “what.”

Low-inference transcripts

Participants in pilot Inquiry Teams describe low-inference transcripts as a transformative tool. Creating and analyzing transcripts helped them see patterns in instruction school-wide, view

instruction through the lens of target population students, and shift their own practice dramatically. However, they also report that using them well requires a deliberate process of building skill and trust.

We recommend the following. First, develop a plan for visiting classes with which your team and your colleagues feel comfortable. Some teams begin by visiting each other, moving gradually outward first to classes of friends and then to classes containing target population students. Make it clear to colleagues that this process is not supervisory—that you are learning how to script classroom practice and that you are interested in patterns in practice that may impact the target population. Do not put identifying information about a teacher on a transcript.

Second, before beginning analysis, make sure that your transcripts are “trustworthy.” By this we mean that each team member has developed the capacity to observe with speed, accuracy, and objectivity.⁸ We recommend that you discuss the potential risks of analyzing transcripts openly and that you agree upon norms to address these risks.

Third, analyze transcripts with a focused lens. Once you have selected a lens, tally results, describing patterns as objectively as possible. Remember that you are interested in understanding patterns rather than individual practice, and that it is tremendously risky to expose practice publicly.

⁸ One test for trustworthiness is to wonder: if I gave a typed copy of your transcript to the teacher whose class I transcribed, would the teacher feel I accurately captured what happened in the class without judgment? Would they feel I used the teacher’s and students’ actual words? Would they feel that I captured key micro-details of teaching practice and student response, revealing finely-tuned observational skills, and a respect for and understanding of teaching and learning?

How it is taught (lesson design)

We find it useful to distinguish “how” from “how well,” the first referring to patterns in lesson design, the second to patterns in teaching practice that affect quality of implementation of a design. In both cases, we are talking about what is actually implemented, rather than what is written or espoused. For “how,” we are specifically interested in patterns in lesson design in-use, rather than patterns in written plans or in what teachers say they are doing.

We recommend that you identify designs in-use by extracting actual lessons as taught from your low-inference transcripts and by then identifying patterns. In other words, if you are confident that your sub-skill and learning targets are taught to target population students, you can analyze “how” they are taught in terms of actual lesson design by using your low-inference transcripts to answer the following:

- What is the lesson plan in use in each lesson transcribed?
- What patterns are there across lessons in terms of design? (For example, in 10 out of 13 transcripts, the lesson began with a “Do Now.”)
- To what extent are lesson designs internally consistent or aligned? (For example, in 9 out of 13 transcripts, an AIM was written on the board, but the questions that followed did not logically build to the AIM.)

Tools

If the sub-skill and learning targets are taught to target population students and you were able to transcribe classes in which they were taught, you now have a database with which to explore “how” they were taught in terms of lesson design. Remember, you are analyzing transcripts at this point for a very specific purpose—to identify the lesson designs in use, and to see whether there are patterns in design in use that help to explain current outcomes for your target population. Here and whenever you analyze transcripts, keep your method focused and as “low-inference” as possible. In this case, we recommend that you read through each transcript with a highlighter—highlighting anything related to the lesson’s content that a teacher writes on the board, says, or asks students to do. Rewrite the transcript with only these lines—the actual words used on the transcript. Then, identify what you notice about the design. (Note: although you are looking only at design at this point, it’s necessary that you include the actual words written or spoken. Only if you write the actual words will you be able to see whether or not the elements in the design are aligned—whether the actual questions asked scaffold students to answer the AIM, for instance.)

How well it is taught (teacher practice)

If the sub-skill and learning targets are currently being taught to target population students, you might want to explore “how well.” To do so, analyze low-inference transcripts to answer the following:

- What patterns do we notice in teacher practices that might help to explain current outcomes for the target population?

By “teacher practices” we are referring to elements of teaching practice other than design that might help to explain current outcomes for the target population. To understand what elements might be relevant, ask yourselves: if the learning target is taught but target population students still don’t know it, what are the elements of practice over which teachers have control that might be changed to help target population students learn? If the learning target is 10 specific vocabulary words in global history, for example, and you find that these terms are consistently taught but that target students do not consistently know them, it makes sense to explore how they are taught. An analysis of low-inference transcripts could reveal the following:

- In 10 of 13 transcripts of global history classes, one of the 10 words was included in an AIM written on the board.
- In eight of 13 transcripts, the teacher provided an explicit definition.
- In three of 13 transcripts, the teacher asked a question that prompted a student to use one of the identified terms in his/her response.

Some Inquiry Team members have expressed concern that in analyzing “how well,” they will be perceived as evaluating colleagues. To be clear—this is not the purpose of inquiry work and is an inappropriate use of the Inquiry Team. The Inquiry Team uses transcripts to identify patterns in practice across the school that faculty can address together.

Tools

Unlike when you are transcribing—where you want to capture as much as you can without applying a particular filter—it is important that you analyze transcripts with a specific, focused lens. This focuses your inquiry and makes the process more objective. Once you select a lens, tally the number of transcripts in which what you are looking for appears out of the total number of transcripts analyzed. Support summary statements (higher-inference judgments) with your low-inference tallies. You may find the following lenses useful: level of questioning, use of academic vocabulary, length and quality of student responses.

Who teaches it (teacher assignment and student grouping)⁹

“Who teaches it” refers to patterns in teacher assignment and/or student grouping that may help to explain current outcomes for the target population. We are not talking about the success or lack of success of any particular teacher. You may find, for example, that decisions about who teaches the youngest or most challenging students in your school parallel what is found in national research—namely, that first and second year teachers are often assigned to the youngest and the most challenging students and/or that the youngest students are often in the largest classes.¹⁰

⁹ This is a condition of learning that you may analyze in Phase II. However, because it is difficult to make changes without having a system-level impact, this condition is best addressed in Phase III.

¹⁰ Viadero, Debra. “Philadelphia 9th Graders Found to Get Least-Seasoned Teachers.” *Education Week*. June 4, 2008.

To understand who typically teaches target population students at your school, gather and analyze evidence to answer the following:

1. What patterns are there in who teaches particular grade-levels or classes that might help to explain target population student outcomes?
2. What patterns are there in how students are grouped that might help to explain target population student outcomes?

Tools

Gather and analyze student schedules of target population students and of prior years' students with similar characteristics to identify relevant patterns in teacher assignment and/or student grouping that may impact their performance.

Case Study Step 5: How did you analyze your target population students' conditions of learning?

Now that we understood what we meant by "organization in a paragraph," our next step was to understand whether or not we were teaching it to target population students ("what is taught"—the first condition of learning). So, we gathered curriculum artifacts that we thought would help us understand this. Jane brought us curriculum map for each course that's used in the English Department. The maps are pretty general, but outline a basic curriculum for each course. We tried to get lesson plans for writing lessons from the English teachers as well, but nobody responded when we asked for them, so we only had a few that Jane brought.

According to the curriculum maps, our skill (writing) is taught in every course. Then we looked for specific references to the teaching of our sub-skill, and discovered that while teaching of the sub-skill may be implied under the larger goal of teaching writing, it is not specifically mentioned in any curriculum map. So then, we looked for specific references to our learning targets, and again—we felt that it was implied that these things should be taught, but they were not mentioned explicitly. Some of Jane's lessons did include explicit teaching of organization, but they did not specifically address our learning targets.

So far, we had created 16 low-inference transcripts of classrooms—10 from ELA classes containing target population students, and six from a range of other subjects in the school, in a few cases containing target population students. Since explicit teaching of writing didn't exist in the curriculum maps, we thought that looking at the transcripts—especially in ELA classes containing target population students—would help us understand how teachers in our school are actually teaching writing to these students, and in general.

Here is what we found:

- In 11 of the 16 transcripts, students did some writing. (In 5 transcripts, students did no writing).*
- In nine of these cases, the writing was in the form of a "do now" at the start of the period in which students wrote a general response, a brainstorm of thoughts related to the topic of the lesson (for example, writing in response to the following: "What are the characteristics of a good leader?")*

In three ELA transcripts, a teacher explicitly mentioned some aspect of writing instruction as follows:

- In one transcript, the teacher defined and modeled writing a thesis statement and told students that everything in the essay had to "relate exactly to the thesis statement."*
- In two transcripts, the teacher assigned an essay for homework.*

In general, we learned that while teaching organization may be implied in curriculum maps and lesson plans, teachers are not systematically teaching "organization" as a skill. Many of us were surprised by what we saw, especially Jane, our English teacher. She said (and we all had to agree): "Wow, I thought we were teaching writing in our school. When I look at the transcripts, I see that a lot of us are having students write a lot of do now's. But we're not explicitly teaching the skills needed to write well. Not in any systematic way, at least."

Step 6: What do you mean by an “instructional change strategy” at this point? And how should we design and implement it?

An instructional change strategy is something small but specific that you will do so that target population students will meet your short- and long-term goals. It is based on the principle of “leverage”—the idea that a small, well selected action can make a big difference.

For some teams, the strategy will be direct. Because they have immediate access to target population students (in or outside a class), one or more team members will implement an instructional strategy and monitor the outcome. Teams who do not have direct access or who think they will be more successful by working indirectly will develop a plan to work collaboratively with one or more teachers outside the team to design, implement, and monitor an instructional change strategy. Inquiry Team members should be clear that they are not working with the teachers in a supervisory fashion, but collaboratively as colleagues. Both the direct and indirect approaches have advantages. A team member with direct access can perhaps move students and/or make adjustments to a plan more quickly; whereas, working with a teacher or teachers outside the team can build broader leadership capacity and/or buy-in to the inquiry process.

Before you begin, commit to a written plan that is clear and doable, so that everyone knows who is responsible for doing what, by when, and how. Also be clear about how and when you expect to know if it is working. This means that you have a plan that indicates:

- Baseline performance levels in the sub-skill and learning target.
- Specific short- and long-term goals.
- A clear strategy for meeting those goals (to change the learning condition).
- One or more specific assessments that you will use to determine if you are meeting the goals and dates when students will be assessed.

We recommend that you assess progress in short-term (learning target) goals at least three times in one year (it could be more, depending on the size of your learning target). This is critical because Phase II is an action-learning cycle. It requires that you act multiple times—that you act, revise your strategy based on assessment results, amend your strategy, etc. We have found that people often have trouble acting in the face of imperfect information. Remember, though: you will never have perfect information! It is more important that you act on good-enough information and learn from what happened than to wait for perfect information that will never come.

Tools

We strongly recommend that you use low-inference transcripts to capture the details of your instructional strategy. If you move students in tutoring, what matters is exactly how you did it instructionally, rather than the tutoring itself. Capture those details so that you can decide what to change and/or spread as you move through the cycle based on actual evidence. In this way Inquiry Teams that pull students out of class differ from traditional AIS; embedded in the work is a plan to learn how better to instruct target population students and spread that knowledge. A later step will include considering how to integrate instructional practices that

work back into classrooms to impact an increasing number of students. First, though, teams need to figure out what practices work with specific, target population students.

This handbook could not give guidance on all the instructional change strategies that target population students across New York City might need. Your team's best resources as you experiment to discover what works best are your Senior Achievement Facilitator (SAF), your School Support Organization (SSO) staff, research in the educational field, and the expertise of your school's staff and community.

Case Study Step 6: How did you design and implement your instructional change strategy?

Once we understood that we weren't really teaching "organization" systematically or explicitly, our change strategy was pretty obvious—we were going to teach it to target population students. We would begin by teaching our target population students to a) have a controlling idea, b) use details to support it, and c) logically develop those ideas. But we were on a pretty tight timeline to meet our short- and long-term goals. So, we had to decide the fastest way to gain access to these students, who would be best to teach them, and how we could teach each student exactly what he or she needed, so we wouldn't waste time.

Jane taught eight of our target population students. She said she'd take care of developing lesson plans to teach the specific, needed skills in her classes over the next three weeks. She felt all her students would benefit from explicit teaching of writing, so she would integrate the curriculum in her class. If some students didn't get it, she said she'd call them in for tutoring.

Our other target population students were taught by three other teachers. We decided that we'd invite these three teachers to our next Inquiry Team meeting to share our rubric and findings with them as a team. Then, Jane and our Social Studies teacher, Marco, would work with that group to develop strategies to integrate lessons in the needed skills into their classes. We created an action plan—a chart that said exactly who was going to do what to make our plan happen and by what specific date to meet our short-term goals, and we designated Tanika (our guidance counselor) as our "manager"—the person who would organize all the pieces, remind us of deadlines, and keep us all on track.

Step 7: How and when should we evaluate and revise our instructional change strategy?

An essential part of the inquiry process is to be willing to amend your work—sometimes in substantial ways—and to see change as evolution in a learning process rather than as backward movement. It's not uncommon for a team to revise learning targets, assessments, a core strategy, or even their list of selected students as they move into deeper iterations of Phase II. (There are likely to be at least two to three iterations of action learning cycles in Phase II alone before you begin Phase III.) The point is to keep learning, as defined by getting better and better at moving student learning forward.

If students are not meeting the benchmarks you set, you should examine and adjust your instructional change strategy. If they are meeting and exceeding these benchmarks, you may want to make goals more ambitious, and you may need to revise your instructional change strategy accordingly. Remember—changes of this sort indicate progress, evidence that you are learning something new, so have faith and keep at it. In our experience, teams are most frustrated right before a big "Aha." Feeling stuck (ironically) is hopeful in this model, because it means you're up against the edge of what you know—that you need to experiment and take a risk to push your learning and your target population students' learning forward.

If you have an experience of success moving target population students—by which we mean not only that you get a lift from better or broader implementation of something you already knew, but that your team has had to push through a wall to learn something new to move at least some of your toughest students, then you are ready to proceed to Phase III.

Tools

The success of the action-learning cycle depends on your use of finely grained assessments with which you can clearly demonstrate small increments in student progress (or their lack of progress), and which give you this information in a timely way. Acuity may provide you with this information, particularly if you use the custom item bank to design your own assessments focused on a very specific area or learning target. You may decide instead to design what you need yourself. Keep assessments as simple as possible, and make sure they are aligned with (though they may be different from) other assessments target population students must pass. See the Appendices, page 78, for more details on using assessments to monitor the effectiveness of change strategies.

Case Study Step 7: How did you evaluate and revise your instructional change strategy?

Luckily, we had decided on a calendar of dates delineating when we would gather work of from our target population students, assess them on our rubric, and see if they were meeting short-term learning target goals. Two weeks later we met to do this for the first time. Tanika led us through this meeting, first checking to see that everything we'd agreed to had been done: Yes, we'd met with the three other teachers of our target population (except only two of them had come). Yes, the two there had agreed to integrate instruction in the needed skills into lessons and to give us student writing we could then evaluate (except only one had actually given the student work to us). Yes, Jane had taught the identified skill in her classes, and she'd brought student work.

So, we looked at the student work. (In some cases, this meant essays—if so, we looked at the first body paragraph. Jane's students had written one paragraph.) Then we tallied student progress on an Excel spreadsheet. Our data specialist, Mariella, helped us with this. She made some neat charts showing the amount of progress each target population student had made from the baseline to our short- and long-term goals. We were excited to see it all laid out so simply, and to see that some of our students had surpassed our short-term goals. Others were right on track. A few of them—the three who hadn't even scored a 1 on our rubric the first time, and one other student who was often absent—hadn't made much if any progress at all.

Some did produce some writing. But none of them moved beyond a 1 on the rubric—they didn't seem to know anything about "organization" in writing a paragraph. Plus, there were a couple of students for whom we didn't have their work.

We were determined first to meet our short-term goals, so we knew we needed to revise our strategy, and we didn't want to lose time. First, we saw that Jane had made a lot of progress with five of her students. We asked her to share any strategies she was using. (She had made up some worksheets for each learning target, and some more specific assessments—one just on transitional words, for example, to help kids with sequencing—that she thought were really helpful.) Further, we decided that we'd definitely script classes where she was still going to be working on these strategies, because we wanted to understand what exactly she was doing.

Second, we needed a plan to get access to the students of the teachers we hadn't reached. We asked our principal (who didn't regularly come to meetings, but whom we updated regularly, and who supported our work) if it was okay with her if we asked those students to come in for a tutoring session. One of the teachers who didn't give us work samples was really good friends with our data specialist, Mariella. So we decided Mariella would talk to her about what had happened, and whether or not we could get the work samples. If not, we'd pull those students in for tutoring as well.

Third, we knew we needed to learn more about why four students hadn't moved at all. Jane was really concerned about this as well, since they were in her class. We decided to focus our next meeting specifically on figuring out a next step plan to move those students.

At the next meeting Jane told us that she and Tanika had done some research, and she hadn't known this before, but the three students we hadn't moved who were in her class were ELL students who had scored at the proficient level on the NYSESLAT the prior year, and thus been moved out of ELL courses. She was still really curious why they had performed so poorly, so she'd brought in a copy of the NYSESLAT for us all to look at. If they'd passed this exam, they must know a lot, so why did they know so little about how to organize a paragraph?

We all looked at this exam together, which was interesting because none of us really knew much about how to teach ELL students, and we hadn't seen this exam before. A few of us admitted to feeling pretty insecure about how well we address the needs of this population of students in our classes. We agreed that we feel like we just don't have the training to address their needs, and that we should have these kids working with an ELL teacher. Some team members felt we should drop these students from our target population.

But in the end, we decided not to. We decided that we still wanted to meet our short-term goals. We decided that we would talk to ELL teachers in our school to help us plan next steps. At the next meeting, two ELL teachers met with us, and they said something that really got us thinking. They said that one limitation of the NYSESLAT is that all the questions involve social language, rather than academic vocabulary—the kinds of words that are used in school. A student could do well on that test, but still not have knowledge of the vocabulary needed to

do well in Math, for example, or any class.

That got us thinking. Our students were really struggling in the chart/graph. We wondered how many of them even understood the words "critical" and "lens." Suddenly we realized that we needed to get a lot more information—maybe we needed to give a vocabulary assessment, but what vocabulary would we test? Plus, weren't we concerned with organization right now, and didn't we have enough information already that Jane's three students didn't know how to do that? We were really confused about what to do next, but we knew we needed to do something. One ELL teacher had another interesting idea. She said: "Why don't you try giving the same assignment in the students' native language (which was Spanish), and then see how they score."

Some people thought this would slow us down. ("Maybe they don't really know how to write a sentence, much less a paragraph," one team member said.) But, we decided to try it and see what happened. We found teachers in our school who could translate Jane's assignment into Spanish and who agreed to score the students' response according to our rubric. And, something amazing happened—or at least we thought it was amazing. Three of Jane's students scored a 5.

This was amazing not because our work was done with these students. We knew we still had a lot of work to do to bring them to proficiency in writing in English. But, we suddenly realized that our assumptions about what they needed to learn next were off. We still had to decide on a strategy for next steps. But our strategy would need to capitalize on all that these students already knew about writing in their native language. We weren't correct about our assumption that they just didn't know how to organize a paragraph. We knew we had a lot to learn about how to teach this particular group of students next.

But we wondered if we were ready to bring some of our findings to the larger school community, and if we could get a bigger boost school-wide by working as a team at system-level change. We saw some serious discrepancies between what target population students needed to learn next and what we were teaching, and we wondered if we could start to fix that. Also, we'd had our assumptions challenged through the inquiry process in ways that were starting to improve our individual teaching dramatically. And we wondered how more of our colleagues could benefit from a similar experience.

Phase II

Notes & Questions:

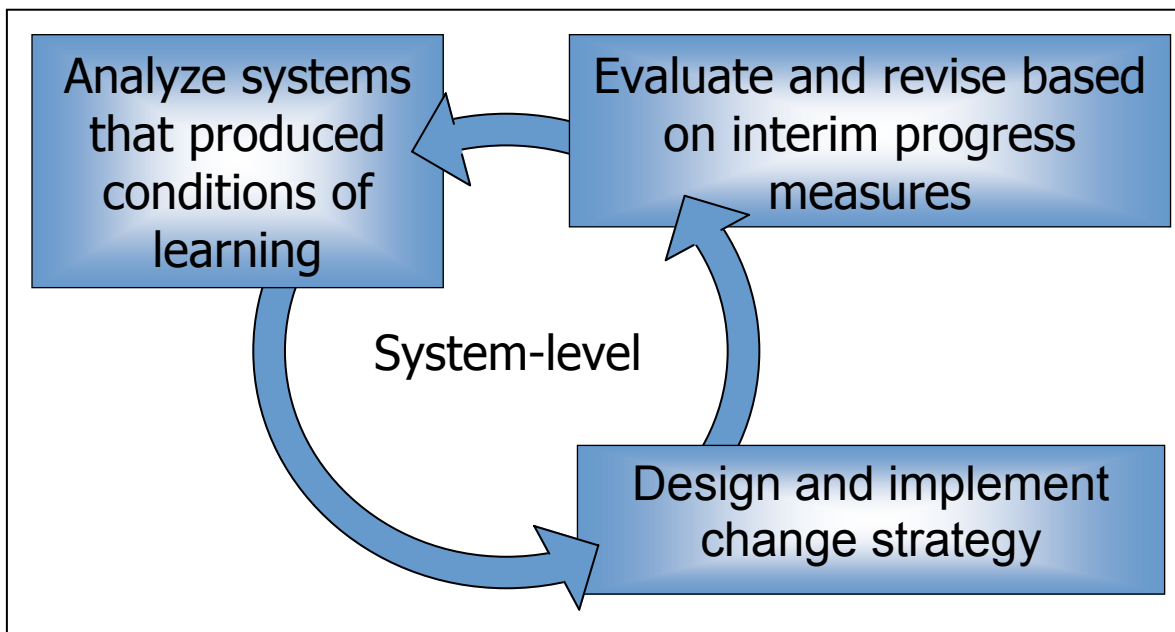


Phase III: Move the system

Purpose of Phase III

To ensure the school continually brings more students into the sphere of success.

Figure H: The Phase III cycle



Steps in Phase III

Phase III: Move the System	Step 8: Analyze school-wide systems that produce conditions of learning.
	Step 9: Design and implement a system-level change strategy.
	Step 10: Evaluate and revise based on interim progress measures.

Step 8: What is a decision-making system, and how should we select and analyze it?

In Phase II, you improved the learning conditions for target population students. In other words, you changed “what” (curriculum), “how” (lesson design), or “how well” (teacher practice) for the target population students. However, in Phase II you made changes by working directly with target population students or their teachers, rather than by altering the decision-making system at its core.

The goal for Phase III is sustainability, by which we mean that if every member of your Inquiry Team were to leave the school, processes of continual, evidence-based improvement of student outcomes would remain. For this to happen, changes must take root not just within individuals or one team, but in the fabric of the school itself, in the decision-making systems that create the conditions in which students learn. This is what we mean by system-level change.

The purpose of step 8 is to understand how one decision-making system currently works to produce current outcomes for your target population. To do so, select one decision-making system (“what is taught,” for example), and answer the following questions for that one system:

- Who currently makes decisions about what is taught? In what forum do they make these decisions? How, or based on what information? When are these decisions made?

As in Phase II, be sure to consider formal or official answers *and* what actually happens. For example, officially curriculum decisions may be collectively determined at a September faculty meeting, while in reality, teachers may decide individually how much of what was talked about in September they will actually teach. Remember: this isn't about blame. It's about coming to a clear understanding of the practices and underlying beliefs that actually drive decision-making.

You may notice that we have not explicitly mentioned supervisory structures, professional development (PD), or communication with parents and the community as "decision-making systems" that you might explore. The reason for this is that each plays a vital role in the four decision-making systems that we do highlight. In other words, we see them as sub-sets of the other decision-making systems. PD, for instance, is one way we hope to alter "what," "how," and "how well" teaching occurs. We hope and expect that you will consider the role of supervisory organization and priorities, PD offerings and opportunities, and communication with parents and the larger community when you conduct your analysis of the selected decision-making system.

Overall, the task for this phase is to identify the one decision-making system that you will explore deeply, and then to understand how that decision-making system currently works to produce the learning conditions that produce the sphere of success. Once you understand how the selected decision-making system works, you are prepared to identify a leverage point—one small change that will make a big difference.

Tools

You might find Peter Senge’s description of any system as an “iceberg” helpful in understanding the work of Phase III.¹¹ It illustrates visually how an event (what shows above the surface) is just the tip of the iceberg—the manifestation of a larger system. That larger system is made up of patterns (analogous to conditions of learning), structures (the components of a decision-making system), and beliefs (assumptions outside of our awareness). All of these components, except for the event, may be under the surface, but guide behavior. Senge posits that changes in the lower-levels of the iceberg (in structures rather than patterns, for example) make the biggest difference.

Case Study Step 8: How did you analyze school-wide decision-making systems?

To understand how decision-making works in our school specifically in terms of curriculum (what is taught), we looked closely at what is currently taught (in terms of our sub-skill and learning targets). And then we kept our conversation focused on trying to answer the following question: What is the decision-making process that leads to what we teach (in terms of that sub-skill and those learning targets)?

We played around with all the elements that play a role in the decision, and we found it helpful to try to tell a story about what actually happened--the decisions that collectively led to current outcomes for our target population. We came up with the following:

- *Two years ago, the English AP and a group of English teachers met over the summer to develop a curriculum map for each English course. They based these maps on New York State performance standards for grades 9–12 in ELA and their experiences.*
- *Last June, teachers for each course worked together to revise the curriculum map based on an item analysis of the most recent Regents and based on a revised list of the literature we would all agree to teach in each course. The item analysis presented student performance data in aggregate form—the percentage of students who got each question right and wrong, and/or received what score on the essays.*

¹¹ Senge, Peter. *Schools that Learn: A Fifth Discipline Fieldbook for Educators, Parents and Everyone Who Cares About Education*. New York, NY: Doubleday, 2000. Page 80.

- *The AP of English asked teachers to use curriculum maps to guide their work. But, the reality is that some teachers use them and others do not. Teachers pretty much make up their mind individually about what to teach—especially in terms of writing. (There is common agreement about what literature teachers teach in the English department.)*

So we wondered—what is it about decision-making as a system that leads to current outcomes? And we realized two things.

- *First, we haven't come to any common agreements as a department about to what extent or how we will explicitly teach writing.*
- *Second, when we look at student data to inform curriculum maps for specific courses, we look at "averages" and base decisions about what goes in the map based on these averages. This does not necessarily lead us to making decisions about what to teach based on what students outside our sphere of success need to learn.*

Step 9: What is a system-level change strategy, and how do we plan and implement it?

Again, the ultimate goal of Phase III is improving a decision-making system. We think decision-making systems are strong if decisions are a) based on evidence of student learning, and b) based on timely feedback. In other words, there needs to be a way to know quickly whether or not a decision is having the desired effect on student outcomes, so that if it isn't, decisions can be changed. That said, you might not be able to or think it's best to move directly to a system-level change at this point. That's why we find it useful to think of next steps in terms of spread.

In step 9, assess the current state of your inquiry work (how it has spread so far and the level of readiness for change in your school) and plan next steps. To spread your work, we could

imagine you working next on one or more of the following levels: the team, the school, and/or the system.

Next step options to spread the work:

Level	Description	Sample rationale and next step
Team	Go deeper as an Inquiry Team with the same target population students and sub-skill and/or continue to work at moving those students with whom we did not experience success.	There were a few students we just didn't figure out how to move. We want to keep working with these students and some others with a similar profile.
School	Use an effective strategy or tool more broadly.	We got a big lift when we used a simple graphic organizer to teach paragraph organization in the English department. We're going to try to get the Social Studies department to use it as well.
	Add another Inquiry Team, or more than one.	We thought being on the Inquiry Team was a powerful experience. We think others would benefit from the experience.
System	Make a system-change to align one decision-making system more closely with evidence of student learning.	We discovered that our curriculum is not aligned with what our students need to learn. We've decided that at monthly department meetings, we'll make adjustments as a department to our pacing calendar based on ongoing analysis of data.

Again, the ultimate goal for everyone is improvement of a decision-making system, but you might decide it is best not to tackle system change head-on at this point. Your decision about what level or levels to work on next, as well as the specific vehicle and extent of spread you select next, should depend upon the particulars of your experience so far and of your school.

It may be that a group of colleagues is already using some of what you've learned—that they are ready and eager for deeper involvement. Or, for various reasons, you might think it's best to proceed more slowly.

Most importantly, next steps should be strategic and doable. We think it's best if you have an elegantly simple plan—something small and well-considered that will make a big difference.

This may or may not include continuing to work directly with your target population students.¹² First, draw on what you learned in step 8 about how your selected decision-making system works—what you learned about who typically makes decisions, based on what information, and when. Then, based on that understanding, select one small thing that, if changed, would lead to big improvement in that decision-making system, and develop a very specific plan to enact that one change.

Again, be clear exactly who will do what, when, and how, and when you will know if it's working. You will probably need behavioral indicators—interim evidence that your strategy is being implemented as you intended. And, you will need indicators of student improvement—specific measures which can point to an increasing number of students inside the sphere of student success. Make sure that you will be able to make a persuasive argument of the link

¹² Many Inquiry Team members find it difficult to stop working with target population students even after they have had an experience of success. Remember that working with such a small group is a strategy to inform what we hope you will do next—move your school as a system. You are a set number of people with a set number of hours in the day. It may be that the best use of your experience will not be to continue with your target population students. You may need to take a different role in year two or year three. For instance, you may mentor new Inquiry Teams to identify and move the same or different target population students. Make sure that whatever you take on as an explicit part of your plan for spread is doable—that you will be able to monitor all aspects of the plan via specific indicators of improvement.

between the two types of indicators, and that you know exactly when you will be checking what to see if your system-level change strategy is working.

Tools

A core idea in systems thinking is that high-leverage changes are simple, but not obvious. In fact, they are often the opposite of what at first appears as common sense. For example, it might seem as if the best way to change teaching practice is PD, because PD is a quick way to convey information to a large group of teachers. We all know of examples, however, where tremendous resources are spent on PD and teaching practice does not change much. A less obvious and more effective intervention might actually require fewer resources. If we want more teaching of academic vocabulary, for example, we might change the information teachers look at during grade-level meetings. Teachers might agree to look at results of regular vocabulary assessments. Or, we might change a lesson plan template that is already widely used. We might alter the form so it has a space for teachers to write down daily vocabulary. In general, changes capitalizing on what people already use or listen to get more traction with relatively little effort.

Case Study Step 9: How did you design and implement your system-level change strategy?

We wanted our system change strategy to help as many students across our school as possible. But we also wanted to make sure that we didn't bite off more than we could chew. So, we thought about what one relatively small thing we could do that would lead to big improvements in decision-making about "what is taught" in relation to the organization of ideas in writing. (We decided that we'd monitor our system-level intervention at the level of our sub-skill—organization).

We decided that teachers in our school (as in all schools) are working really hard to cover required curriculum, and that often they don't feel they have enough time to slow down and to

teach basic skills, especially if (as is always the case) some students are missing fundamental building blocks. We decided we wanted to help teachers in our school feel it was okay to take the time to slow down, see exactly what each student needed, and to teach it. We weren't at all sure that we could make this happen across the whole school at once, though. So, we decided just to work on this in the English department first.

We decided to invite the English Chair and the principal to the next Inquiry Team meeting. We did so, and explained what we'd learned. We explained that we felt English teachers were working really hard, but that they felt pressure to cover the curriculum. We proposed our idea of one change that we thought would make a difference—we would ask all English teachers to bring copies of student work to monthly department meetings, and we would score that work according to our "organization" rubric (or to another rubric, if we could improve it). This would basically be an agreement about changing the way we spend time in monthly department meetings, and what information we look at while we're there.

The principal and English Chair agreed, and we had the fundamental elements of our plan. Then we decided who would do exactly what, when to make this plan happen, including who would plan and run the department meetings. And, we selected specific indicators to make sure: a) we were following through on the steps required in our plan, and b) our plan was resulting in improved outcomes in organization in writing for an increasing number of students—students outside of our original target population.

Step 10: How do we evaluate and revise our system-level change strategy based on interim measures of progress?

As in Phase II, you need to know whether or not your system-level change strategy is working as you go along, so that you can make adjustments. To do so, you will need to know whether interim measures—specific benchmark indicators that your system-level change is being implemented as intended—are being met. You will also need to monitor evidence of an increasing number of students inside the sphere of student success. However, you will want to measure your behavioral benchmarks more frequently. If these benchmarks are not being met *or* if you do not see evidence that they are having a positive impact on student performance,

you need to adjust your plan. These adjustments are a sign of progress, because they show that you are learning.

Tools

The tools you used to help set your long-term and short-term goals for system-level change can help you revise your change strategy. Supplement this information with advice from your Senior Achievement Facilitator (SAF), your School Support Organization (SSO) staff, research in the educational leadership field, and the expertise of your school's staff and community.

Case Study Step 10: How did you evaluate and revise your system-level change strategy?

Sometimes in this process, we felt as a team that we'd come upon some really great answers, and that our work was almost done. Inevitably, though, we'd learn shortly that whatever we tried worked with some of our students, but not all—and that there would always be a next step, something new we'd need to try to move our target population students further or to move the school. In Phase II, we kept improving our assessments, getting smaller and smaller as we became clearer as we went along about what information we needed to see what each kid needed to learn next. The same thing happened here, in Phase III.

When we implemented our system-level change, some people got it right away. They loved having more specific information about what their students knew, and they seemed to know just what to teach next. Other teachers didn't want to focus so much on writing, however. They thought it took away from teaching the literature that they loved.

In Phase II we kept learning to move students. In Phase III, we came to understand that our job was to work collaboratively with our colleagues to push and move each other to keep moving students. But also we learned that the more we can change things like what information we look at, or what structures or processes can support us in inquiry generally, the bigger bang for our buck we would get. Plus, we realized that this kind of strategy made us feel more confident that changes would outlive us—that they'd become part of the regular way our school functioned, so that they wouldn't depend on all of us to continue.

As a team, we felt that we'd made some changes personally—that we'd gotten better at looking regularly at what all of our students knew and needed to learn next, and that our teaching had improved because of it. We also felt we'd begun to understand more about leadership, and how it's not that different from teaching. What we needed to do was to help

create a situation where our colleagues could learn as we had—by putting a student-learning problem at the center and by working collectively to figure out what works. And, we needed to keep learning together. Our students' success depended on it.

Phase III

Notes & Questions:



Sharing questions and findings as you go

As an Inquiry Team, sharing what you are discovering with a wider group of colleagues—preferably your whole school—at regular intervals as you move through the inquiry process is important. Perhaps you can share where you are at the end of each phase. Remember that the goal of the inquiry process is school-wide improvement. The more you share what you are finding, the more likely that you can bring your entire school along with you.

This requires, however, that you share your work in a way that includes your colleagues as partners in the learning process. We strongly recommend that you share what you are finding, not to let them know what you know, but for the opposite reason—to find out what they know. You might present your results from Phase I, for example, and then say, “So, that is what we have done and learned so far. What have we missed, and what do you suggest we do next?” Then, listen and write down what your colleagues say (instead of defending what you present.) Remember that what matters most is what was heard rather than what you meant to express. Your purpose in sharing your work is to gather more information and gain buy-in.

Gathering information and getting buy-in depends on your ability to present complex work simply and clearly, so that it is readily understood. If you use PowerPoint, have one idea per slide. Tell a simple, logical story. Use a few, simple graphics to illustrate what’s most important or interesting in your data. Doing this well takes practice. Feel free to ask your SAF and/or your SSO for help.

Most importantly, remember not to get so caught up in your data analysis that you forget to tell a human story. Put the students front and center, with key examples (quotes, a video clip, or even having students present with you!) to remind us all why this work is so important, and why we are educators in the first place.

The inquiry cycle in year two and beyond

Do not feel that you have to move through the cycle exactly as prescribed here once you move into year two and beyond. It may make sense, for example, to build on what you've learned in year one, expanding the number of teams who address the same basic sub-skill, but with different target population students, or for a second team to study the same students but in a different content area. Each school must decide how much they want to dictate these decisions.

Keep in mind, however, that limiting choices to build upon knowledge gained and/or bring coherence may decrease empowerment and buy-in for new Inquiry Team members. Inquiry Team members have said that going through the entire data analysis process in Phase I helped them to own the students and the process. Some schools manage this dilemma by sharing findings regularly, but encouraging new teams to discover for themselves. We look forward to figuring out together how best to build upon knowledge gained across schools to accelerate city-wide improvement.

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Appendix I: Tools

Step 1: Define a school-wide focus group.

A. Progress Report

Progress Report

The Progress Report can be studied at many levels—a high-level review or a deep dive into student data. It is a great tool for helping your team choose a content area to focus on, and perhaps a sub-population or proficiency range. We've listed below a number of ways that teams can look at the data in their school's Progress Report to inform their choices:

- ☑ **Look at the categories.** The Progress Report has three categories, and a weakness in one could give direction to your team. Does the Student Performance category suggest you need to work on getting your students to perform at grade-level standards? Does the Student Progress category suggest you need to work on getting your students to make incremental progress from wherever they are starting? These categories could impact your Inquiry Team's focus in broad strokes.

- ☑ **Look at the content areas.**
 - The *Elementary/Middle School* Progress Report and the *District 75* Progress Report both have several metrics for English Language Arts (ELA) and Mathematics. Do you see patterns that suggest one of these is a more pressing challenge to your school than the other?
 - The *High School* Progress Report gives weighted Regents pass rates (WRPR) for each of the five major Regents. Do you see one area that needs the team's focus (for example, our WRPR for Science is significantly lower than other areas)? Or do you see a pattern that leads you in a certain direction (for example, our WRPR for Global, US History, and English are all low, so we may need to focus on literacy)?
 - The Progress Report for *Schools for Transfer Students* does not give content-level data, but the Inquiry Target Tool (ITT) does. It also allows *High Schools* to look at credit accumulation by subject area. Please see the section on the Inquiry Target Tool in the Appendices, page 70, for more details.

- ☑ **Look by group.**
 - Each Progress Report has metrics that deal with how well your school has helped students with **past low performance**. On the *Elementary/Middle* and *High School* Progress Reports, there are several metrics for students performing in the School's Lowest Third. On the *Progress Report for Transfer Students*, students are grouped

according to how many credits they earned before attending the Transfer School. If a school is not moving the students that came to it with indicators of poor past performance, this may become the focus of the Inquiry Team.

- Progress Reports also give metrics that deal with how well your school has helped **other groups** of students. All Progress Reports include additional credit metrics for particular groups of students such as English Language Learners (ELLs). In addition, the *High School* and the *Transfer* reports gives metrics by the number of years the students have been in school. The *District 75* report gives metrics for NYSAA-assessed students and for standard-assessed students. If one of these groups is not performing as well as expected, the team can focus their efforts accordingly.
- The Inquiry Target Tool (ITT) allows teams to look at performance for other groups. For *High Schools*, this includes looking at 8th grade test scores for students that have not yet sat for Regents. Please see the section on the Inquiry Target Tool below for more details.

- Use what you know about your school.** All the data from the Progress Report should be considered in light of what you already know about your school. Whether the data from the Progress Report confirms what you already knew about your school or prompts you to ask new questions, it should inform but not be the sole driver determining your Inquiry Team choices.

Step 1: Define a school-wide focus group.

B. Inquiry Target Tool (ITT)

Inquiry Target Tool (ITT)

The Inquiry Target Tool (ITT) includes student-level data from last year's Progress Report and from this year's ATS records (from the RESI report). Keep in mind that if you look at Progress Report data, it will include students that have left your school since last year and it will not include your newest, incoming students. If you look at ATS data, although it will include all but your most recent transfers in and out, it will not include all the data in the Progress Report. It is a great tool for helping your team choose a sub-population and proficiency range to focus on, and perhaps a content area.

You can learn about the technical side of how to use the ITT in the *ITT Tutorial*, available through ARIS and at <http://cfi.sharepointsite.net>. Any underlined term in the text below can be found in the *ITT Tutorial*. The following gives some suggestions for what kinds of searches you might want to run and how the ITT can help inform your decisions.

- ☑ **Choose an academic performance measure** you want to consider. For example, if you are focusing on ELA, you may want to look at the score for the most recent ELA test the students took (8th grade for high school students).¹³
- ☑ **Look at the performance of different groups** on this measure. For example, in a middle school you could use the filtering function and the column statistics to see if the 6th, 7th, or 8th graders performed most poorly on the test, or even figure out which official classes performed most poorly. You may choose the most poorly performing groups to be your sub-population.
- ☑ **Choose a cut-off** for which students you are not as concerned about as a first priority. For example, a middle school may decide any student that is scoring at or above a 2.5 on their Math test is not a current priority for the Inquiry Team. Sort the data by the performance measure you are looking at and make a decision about your cut-off. For example, you might decide all students performing at a level 3.2 and above are doing relatively well and don't need to be part of your school-wide focus group. You may choose this to be your proficiency range.
- ☑ **Label** the students in the data entry tab of your ITT so you can more easily explore their data. You can label the larger group of students as "school-wide focus group" students, and when you have identified the target population students you can label them as well.
- ☑ **Explore other ITT data** about these students. You may want to look at their demographic information, their testing history, their attendance rates, suspension history, etc. Looking at these data can help you make hypotheses about the students and where they might be getting stuck academically.
- ☑ **Enter other data into the ITT** in the data entry tab. For example, a team could enter periodic assessment data or data from teacher-created assessments.

Step 1: Define a school-wide focus group.

C. Comprehensive Education Plan (CEP)

Comprehensive Education Plan (CEP)

The Comprehensive Education Plan (CEP) has been revised to be more closely integrated with the Progress Report, the Quality Review, the Inquiry Team process, and the periodic assessments. In preparation to write the CEP, the School Leadership Team (SLT) may have

¹³ Some teams chose to consider two performance measures, such as ELA test score and grades in ELA classes. This may complicate your analysis, but it is a valid approach.

studied the school and identified priorities for what academic areas need to become a focus and what groups of students need the most support. This work may influence the Inquiry Team as they are selecting the school-wide focus group for their work.

Step 1: Define a school-wide focus group.

D. New York State Accountability (NCLB)

New York State Accountability (NCLB)

The New York City Department of Education has a complementary accountability system to the New York State accountability system mandated under the federal law, No Child Left Behind (NCLB). If your school is under pressure to improve the performance of a particular sub-group for NCLB, this may influence your Inquiry Team's choices around school-wide focus group.

Please be advised, however, that our experience has shown Inquiry Teams are most often successful when they focus on a group of students that not only shares demographic characteristics, but also struggles with a particular academic skill and sub-skill. The Inquiry Team can then learn in depth how to address the students' academic needs. If you choose, for example, all students with IEPs as your school-wide focus group, it is likely that they are struggling for many different reasons with many different skills and sub-skills. Be sure you can narrow down to a group that is struggling with the same skill and sub-skill.

Step 2: Define a target population.

Assessments

If your team has chosen a content area, sub-population, and proficiency range, assessments can help you identify a smaller group of students that share challenges in a particular skill and sub-skill. The following gives suggestions about which assessments could be most useful for this step:

- Use NYStart data** to determine which ELA or Math standard troubled the students most. This represents one approach to selecting your skill.
- Use Performance Series** to determine the level at which a student is performing. This assessment may be especially useful for students that you suspect are performing far below their grade level, but you're not sure *how* far below level. Performance Series can also help determine students' relative strengths and weaknesses in Math content areas (or skill). It provides suggested learning objectives (SLOs) for each student, and an SLO that all target students share could help inform the sub-skill the team chooses to focus on. Please note: Performance Series requires internet access.

- ☑ **Use Acuity** to determine a particular skill and sub-skill. You can use Acuity in a variety of ways:
 - Use students' **previous assessment history** if you would like to get started narrowing your population immediately without first administering an assessment. You can use the end-of-year Predictive Assessment, or look for patterns in all the assessments the students took last year. You should even have data for students new to your school, as long as their school last year gave these assessments.
 - **Create a Customized Assessment** that includes questions within the skill you have chosen. For example, a school sees from NYStart that their 7th graders did particularly poorly in statistics and probability last year. They then looked at the June Predictive Assessment results for their new 7th grade class' low-performing students. They also did poorly in this statistics and probability, so the team created a Customized Assessment in probability and statistics to determine what sub-skill within this area is most important, and which students have the most trouble with this sub-skill.
- ☑ **Give a literacy inventory**, like DRA, QRI, WRAP, Fountas & Pinnell leveled texts, Teachers College assessments, or other inventories. Because these assessments can take a great deal of time to administer, you may choose to give only a part of the assessment to all the students, and then complete the assessment only for the students whose initial results are the most concerning. For example, you could administer a running record for all of the students in the school-wide focus group, and then complete the literacy inventory only for the students you are most concerned about.
- ☑ **Give a mock Regents**, or a portion of a mock Regents, and do an item analysis and/or rubric analysis to identify patterns.
- ☑ **Use a teacher-created assessment**. In reviewing the standardized assessments available to you, you may decide none would provide you with the information you need about what the target population students know and need to know. If so, you may choose to use a teacher-created assessment or to create your own assessment as a team. This may be anything from a piece of homework or classwork that touches on the sub-skill of interest, to a test or a broader assignment.
- ☑ **Look at student work**. It may be that your team wants to focus on a sub-skill around which your school already collects student work. If so, you can analyze this work to identify students struggling with the sub-skill.

Step 4: Define learning targets and short-term goals.

Assessments

If your team has chosen a school-wide focus group and target population, assessments can help you determine which particular learning targets your students are struggling with. The following gives suggestions about how to use assessments for this step:

- ☑ **Break down your sub-skill** into learning targets. The list of learning targets on page 93 may help you with this step, but the assessment you are using may also help this process. For example, you may analyze the Algebra Regents to determine what kinds of questions tend to come up within your sub-skill: patterns, relations and functions. You could consider each kind of question a learning target.

Or, you may have to go deeper. For example, a team may hypothesize that their students are having trouble with some patterns and functions because they have not memorized their basic operations facts. They may drill further and find the issue is really the multiplication tables... And even further: it is the 7s table that is really at the heart of the problem. For some teams, they must start with a learning target that seems very, very small, trusting that starting here can have a big impact over time.

- ☑ **Consider which learning targets are most foundational** for success in the sub-skill. Often an item on an assessment may aim to assess one learning target, but really require a student also to have a number of foundational abilities or concepts. And, certain target population students may be missing one or more, but not all, foundational learning targets. For example, you could look at interpreting a political cartoon as a learning target. A student that can do this must be able to access prior knowledge, make connections, interpret metaphor, make inferences, etc. A team working on political cartoons will need to decide which of these foundational abilities each student lacks, and what order would be best for each student to learn missing pieces.
- ☑ **Assess the target population students** to determine which students are struggling with which learning targets.

Assessing Assessments

To assess your assessment, you can ask: Is it aligned, scaffolded, and efficient?

Is it aligned?

- Does this assessment test exactly what we want it to test?
- Is the content aligned with future required assessments?

Is it scaffolded?

- Do questions break down the material into small enough parts that we'll be able to tell exactly where student learning is breaking down?

Is it efficient?

- Is it designed to get desired information as efficiently as possible? (Having a student write an essay, for example, is an inefficient way to know he or she can write a thesis statement.) And, are the wrong answers designed to elicit potential misperceptions, so that a "distractor analysis" (analysis of wrong answers) can provide valuable information about student thinking that can inform instruction?

Step 5: Analyze target population conditions of learning.

A. Low-inference transcripts

Low-inference transcripts

If your team members have developed the capacity to produce "trustworthy" transcripts, you may want to use them to analyze the conditions of learning for the target population students. You will need enough transcripts to constitute a representative sample of the conditions of learning for the target population and you will need to select a lens with which to analyze them.

We take one example and illustrate how you might use low-inference transcripts in a very focused way to help you understand the conditions of learning under which target population students are expected to learn the identified sub-skill and learning targets.

What

Suppose a team identifies knowledge of academic vocabulary in Social Studies as a sub-skill and four specific words needed to perform well on the Regents as a learning target (*Discuss, analyze, describe, interpret*). To see if the sub-skill and learning targets are taught to target population students, the team examines departmental curriculum maps, lesson plans, and class assessments. They find that academic vocabulary is taught at the level of the sub-skill according to those documents. In order to see whether teachers are actually teaching the words identified for the learning target, they look at low-inference transcripts. Specifically, they examine the 19 transcripts they created of Social Studies classes to see if these words are taught. They simply count the transcripts that contain these words. They discover that they are in the lessons—that in 15 out of the 19 transcripts, one or more of these words is used by the teacher. In 3 of the 19 transcripts, a teacher defines one of the words, in addition to using it. They conclude that the learning target is present in some classes, and therefore that it is taught. So, they proceed to looking at "how" it is taught.

How

To understand “how” it is taught, they look at the transcripts again. Specifically, they want to look at lesson design as implemented in the 19 relevant transcripts. So, they extract the lesson as taught from each transcript. And, they notice an interesting pattern. They notice that many of the lesson AIMS (each class has one written on the board) contain the relevant vocabulary: one of the four words—discuss, analyze, describe, interpret. In fact, in 13 out of the 19 lessons transcribed, the AIM contained one of these words. However, they also noticed that the questions asked in the ensuing lesson did not lead students to answer the question posed in the AIM. Instead, the pattern they saw was that questions asked by the teacher were a series of factual questions—answerable by a student giving a piece of factual information—and not building to students’ being able to discuss, analyze, describe or interpret.

How Well

In 15 transcripts, teachers use one of the identified words. In 13 of these cases, they use the word in the AIM, in 2 cases, the teacher says it at least once. In 3 of the 19 cases, the teacher defined one of the words. In order to look at teacher practice with regard to the learning target—in other words, in order to look at patterns in teacher practice that may impact current outcomes in the learning target for target population students, the team looked more closely at these relevant examples in their transcripts. And, they came to the following evidence-based conclusions:

1. Where the relevant word is used in the AIM, the lesson itself does not actually help students to understand the meaning of the word or the skills required to do it, because the lesson itself doesn’t require use of the skill suggested by the word.
2. In 3 cases, teachers define one of the relevant words. In no cases are lessons designed or practices implemented so that students practice using the word or the skill required by that word on the Social Studies regent.

Hopefully this series of examples illustrates how you can analyze transcripts with a specific lens in order to come to a data-based understanding of the current conditions of learning for target population students—the conditions of learning that produce their current outcomes. We hope it is clear as well that what the team learns will probably be revealing about instructional practices that lead to all current outcomes—since looking at a number of transcripts will allow you to begin to see patterns in practices across your school. Seeing the conditions of learning clearly through this analysis should spark ideas about how you might intervene (with your instructional change strategy) with a high-leverage intervention to move target population students. You will also draw upon this knowledge in Phase III, when you need to come to an understanding of a decision-making system that led to the patterns you identified in the above process.

Step 5: Analyze target population conditions of learning.

B. Looking at Curriculum Artifacts

Look at Curriculum Artifacts

Analyze curriculum artifacts to determine “what is taught” in relation to your sub-skill and learning targets. Remember that you are primarily concerned with what is actually taught (as opposed to what is intended). So, treat your curriculum artifacts (State standards, curriculum maps, lesson plans, etc.) as part of an incomplete evidence package. (See above on transcripts for ways to augment analysis of “what is taught” by analyzing low-inference transcripts.)

Step 5: Analyze target population conditions of learning.

C. Interviews

Interviews

As part of data collection and analysis, it’s a great idea to interview relevant teachers and students. Again, be aware that your most powerful evidence may be low-inference evidence—transcripts of classrooms and/or evidence from student work. But, interviews can provide a window into teachers’ and students’ experience that can point you in new directions or confirm/disconfirm earlier assumptions.

You might interview teachers about what they teach, how, and/or with what specific areas target population students struggle. It’s especially powerful if you can corroborate what they say with another source of evidence.

You might interview target population students at various points to understand a) what they struggle with b) their experience of current learning conditions—what works for them and what doesn’t or c) what instructional strategy might work best. You could ask them how they learn best, for instance.

Step 7: Design and implement an instructional change strategy.

Assessments

If your team has chosen a school-wide focus group and target population, assessments can help you frame your long-term goal for student performance. The following gives suggestions about how to use assessments for this step:

- ☑ **Choose the best assessment** for your purposes. Review the assessments available to you to see which will give you the most useful information.
 - Many teams look for an assessment that can estimate for them how many years of growth a student has made over a time period, because then they can truly see if the student's progress has been accelerated. However, if the assessment that best measures performance in your sub-skill does not estimate years of growth, you may choose that assessment anyway.
 - Be practical about your team's capacity. It is certainly easier to use an assessment created by experts instead of creating your own and ensuring that it is robust and consistent. However, if your sub-skill is not measured well with the assessments available to you, feel free to create your own.
 - Strive for consistency. You can most reliably compare baseline and final results when you use the same assessment at the beginning of the year and at the end of the year. Similarly, giving students similar testing conditions at both times is recommended.
- ☑ **Establish a baseline** from which to measure growth. You may already have this data if your school gives diagnostic assessments to students at the beginning of the school year. However, these assessments may not be sufficiently targeted towards the sub-skill of interest. For example, suppose a school gives a standard diagnostic to all students at the beginning of 6th grade, but this assessment only includes 2 questions on variables and expressions in algebra, the sub-skill of the Inquiry Team. The team may choose to develop their own assessment that covers only this sub-skill.
- ☑ **Make an ambitious and realistic long-term goal.** What exactly "ambitious" and "realistic" mean for your students will depend on many things, including where your students are performing at the baseline assessment. Consult your SAF and your SSO network team for assistance with this.
- ☑ **Decide how you will benchmark progress.** It is essential that you plan short-term goals to monitor the target population students' progress towards their June goal along the way. It is likely you will do this in two ways:

- **Quantitatively:** You may decide to give the same assessment that you used as a baseline (and that you plan to use in June) several times throughout the school year. For example, suppose that in September your target population students are reading at a level L on the Fountas and Pinnell reading assessment and that the long-term goal is for them to read at level Q. You might hope for them to be reading at level N by December, and level P by April.
- **Qualitatively:** You may have formal practices in your school for collecting qualitative data that will provide your team useful feedback on the effectiveness of the instructional change strategy. For example, any school that regularly uses conferencing notes may want to examine these on a regular basis for information about the progress of the target population students. Like the quantitative data discussed above, this may lead you to refine your instructional change strategy part way through.

Moreover, your team will likely discuss how your change strategy is proceeding in qualitative ways—from simply noticing that providing snacks for a tutoring session makes students feel welcome and at ease to discussing different students’ reactions to the same activity. This information is important even though it is not numerical! It will allow you to make constant improvements to your plans.

Step 8: Analyze school-wide systems that produce conditions of learning.

A. Low-inference transcripts

Low-inference transcripts

If your team used low-inference transcripts in Phase II, you may have focused only on classrooms with target population students. You may decide that, in order to analyze the school-wide systems that produced the conditions of learning, you need to conduct low-inference transcripts on a broader swath of classrooms across your school.

Please keep in mind, a set of transcripts from any group of classes can shed light on patterns in learning conditions at your school. Your team might want to conduct more if you have a hunch that you will find very different results in another group of classes. This is not necessary, but may provide a broader base of conditions of learning from which you can analyze the systems that produced these conditions.

Step 8: Analyze school-wide systems that produce conditions of learning.

B. Quality Review

Quality Review

The Quality Review can help you better understand the decision-making systems in your school that create the current conditions of learning. The following gives suggestions about how to use the Quality Review for this step:

- ☑ **Begin with the learning condition** you identified. Study your Quality Review to glean patterns in how data are gathered and used to improve instruction, and what some of your school's challenges are.
- ☑ **Review how data around this learning condition is collected and used** in your school, using the Quality Review criteria. The full list of criteria is available at <http://schools.nyc.gov/Accountability/SchoolReports/QualityReviews/>, as well as on <http://cfi.sharepointsite.net/>. For example, a middle school's Inquiry Team realized its target population students had poor fluency and the school's ELA curriculum did not address this.
 - Suppose the team realizes this is a gap in the category "Gather Data" because they don't give assessments that could help them diagnose students with very basic reading issues like decoding or fluency to all incoming students. They may ask themselves the following questions around the systems that produced this gap:
 - Who decides what kinds of diagnostic assessments we give?
 - How do they make that decision? Based on what information and when?
 - Suppose, on the other hand, the school has pull-out programs for students that need support with fluency. The team recognizes the gap in this case is in the category "Monitor and Revise." They realize they may know that a student is "behind," but sometimes they keep implementing the same pull-out program for years without tracking whether or not the student is catching up. They may ask themselves the following questions around the systems that produced this gap:
 - Who at our school currently adjusts programming decisions for students (such as pull-out programs), based on what information, and when?

Step 8: Analyze school-wide systems that produce conditions of learning

C. Learning Environment Survey

Learning Environment Survey

If your team is deciding which school-wide systems you want to analyze, the Learning Environment Survey can help confirm or refine the direction of your analysis. The following gives suggestions about how to use assessments for this step:

- Begin by using other tools** listed above to get an overview of your school's systems. This should help you form a hypothesis on how school-wide systems produced the target population's conditions of learning.
- Study your Learning Environment Survey** to glean patterns in how parents, teachers, and students perceive the four domains:
 1. Safety and Respect
 2. Communication
 3. Academic Expectations
 4. Engagement
- Study the survey to see if any questions relate** to your hypothesis.

For example, suppose the Inquiry Team at a high school is concerned with the flow of information at their school. Looking at their Quality Review they notice that the guidance counselors at the school analyze each student's credit accumulation and Regents scores. However the team believes that this information is not shared with parents, students, and teachers as much as necessary. They look at particular questions in the Learning Environment Survey that might confirm this hypothesis:

(Parent Survey) How much do you agree or disagree with the following statements about your child's school or teacher? This year, staff at my child's high school helped my child to select courses that he or she needs to graduate and to succeed after graduating.

(Student Survey) How much do you agree or disagree with the following statements about being successful at your school? My high school provides helpful counseling on how to get a good job after high school or how to get into college.

(Teacher) How much do you agree or disagree with the following statements? This school makes it a priority to help students select the best courses to achieve their college or career goals.

The survey results suggest that parents and students do not feel like they are getting support around college and career goals, but teachers feel the school prioritizes this. The team refines their hypothesis: teachers are indeed focused on college and career goals, but do not make explicit connections between these goals and the courses students need to take and Regents they need to pass to attain them. This may be because guidance counselors are not sharing credit and Regents information with teachers, and teachers are not thinking about these data strategically with their students. Neither the guidance counselors nor the teachers are successfully communicating the information to students and their parents.

The team decides to thoroughly analyze the communications systems at their school, by asking themselves the following questions:

- Who gets to see what information and when?
- What priorities drive decisions about who gets what information?
- Is the information communicated in ways that parents, teachers and students all understand?

Step 10: Evaluate and revise based on interim progress measures.

A. Assessments

Assessments

If your team has planned a system-level change strategy that directly impacts student performance, you may be able to find an assessment that will measure the change in performance you expect to see at regular intervals. This assessment can help you set a goal and monitor progress towards that goal. The following gives suggestions about how to use assessments for this step:

- ☑ **Remember to stay small**, if possible, in what you want to measure. When you are measuring the effect of a change on the whole school as a system, there are so many different things happening that it can be difficult to isolate the effect of your change strategy. For example, your change strategy could be to guide your curriculum with diagnostic and formative assessment data, instead of sticking to a pacing calendar. You could look at student performance and see if it improved, but many different factors may have affected it. One way to narrowly assess the impact of this change would be to focus on the achievement of the students that were performing furthest above or below grade level. The pacing calendar is least relevant for these students. Another way would be to assess the particular skills that were taught instead of those suggested by the pacing

calendar. This could give a better sense of the impact of your strategy than using a global assessment of the entire content area.

Step 10: Evaluate and revise based on interim progress measures

B. Quality Review

Quality Review

If your team has analyzed the school-wide systems that produced the conditions of learning that were not serving your target students, the Quality Review can help you set and monitor a goal for system-level change. The following gives suggestions about how to use the Quality Review for this step:

- ☑ **Use the Quality Criteria** to help evaluate your progress towards your goals. Although this is not required, these criteria may be helpful to your team. The full list of criteria is available at <http://schools.nyc.gov/Accountability/SchoolReports/QualityReviews/>. For example, if an Inquiry Team finds that the curriculum in their school is more aligned to the text book than to what students know and need to know, they may choose to focus on teachers and faculty using periodic assessments and other diagnostic tools to:
 - Measure the effectiveness of plans and interventions for individual and groups of students in key areas.
 - Revise plans immediately in order to reach stated goals.

This team might set goals for teachers' use of assessment data to monitor students' learning and to revise their curriculum accordingly.

- ☑ **Build in frequent, measurable benchmarks.** Although the example above is a targeted change that is simple in its essence, it may be a long process to implement it fully. The team needs to plan how to monitor the change strategy along the way, changing their plans if need be.
- ☑ **Follow the change all the way to evidence of improved student performance.** The end goal of the Inquiry Team process is an increasing number of students inside the school's sphere of success, and this must be measured in terms of student performance. While changes to school-wide systems may directly impact the behavior of adults in the building, Inquiry Teams must also measure the indirect impact on student performance.

The team in the example above may monitor all of the following at different points of implementing their systemic change strategy:

- Teacher comprehension of data reports from periodic assessments.
- Changes teachers make to their curriculum, according to periodic assessments (re-teaching material students did not grasp, supplementing the curriculum with foundational skills students should have learned in earlier grades but did not, and/or skipping material in the curriculum that students have already mastered).
- Student performance on further assessments, once these changes have been made.

Step 10: Evaluate and revise based on interim progress measures.

C. Learning Environment Survey

Learning Environment Survey

If your team has analyzed the school-wide systems that produced the conditions of learning that were not serving your target students, the Learning Environment Survey can help you set and monitor a goal for system-level change. The following gives suggestions about how to use assessments for this step:

- ☑ **Set a goal for the responses you hope to get to one or several questions on the Learning Environment Survey.** If a question is directly linked to a change you want to enact, this may be one way of monitoring the effectiveness of the change. For example, if a team plans to work with teachers on providing helpful feedback to parents on student work, they may set a goal that 90% of parents agree or strongly agree with the statement on the parent survey: “My child’s teacher(s) give helpful comments on homework, class work, and tests.”
- ☑ **Monitor opinions on this question through informal surveys.** Because the Learning Environment Survey is given only once a year, you may want to give shorter, informal surveys more frequently than this to your school’s parents, teachers, and/or students. You may choose to ask only a couple of questions, and you may want to ask questions that deal more specifically with your systemic change strategy than the Learning Environment Survey questions do.

If you decide to conduct informal surveys, it is a good idea to set goals for what kind of responses you will get at different points through the year. For example, using the scenario above, the Inquiry Team may choose to work with staff at their school during the August professional development days and then offer ongoing PD on giving helpful feedback on student work. They may plan to give parents informal surveys in October, December and February, to see how they are doing. Their benchmark goals could be that 70% agree or strongly agree in October, 80% in December, and 90% in February. If they do not meet these goals they might reexamine the PD they are providing to teachers.

Step 10: Evaluate and revise based on interim progress measures.

D. Low-inference transcripts

Low-inference transcripts

If your team used low-inference transcripts to help you analyze the school-wide systems that produce the conditions of learning for target population students, the lens you used can help you set goals and evaluate interim measures. For example, a team focused on increasing explicit teaching of content vocabulary may find that before they implement their system-level change strategy, 80% of content vocabulary words said in classes are said by teachers and only 20% are said by students. They may set the following interim benchmarks: in one month they hope to see a 70%/30% ratio; in two months a 50%/50% ratio; in three months a 20%/80% ratio.

They will continue to take transcripts to evaluate their change strategy against these interim measures, while also monitoring how student performance is impacted by (hopefully) increasing practice using content vocabulary during lessons.

Appendix II: Frequently Asked Questions (FAQs)

What's the role of the principal on the Inquiry Team?

The principal is officially a member of each school's Inquiry Team. That said, some are very actively involved, while some use the Inquiry Team as a way to develop distributive leadership. Either way, principals should prioritize the work of the team and maximize its potential to be a lever for change in the school. To this end, it is important to have a mechanism for ongoing communication among all team members, including the principal—so that decisions the team makes are aligned with school-wide efforts and goals.

Does the process have to go in the order you describe?

No. If you know that a recommended next step won't sit well in your environment—that if you proceed along one route too quickly, for instance, it will backfire—then you should trust your expert hunches. That said, what we recommend is different from business as usual. It may be hard to tell what's not a good idea vs. what's just different. If you are unsure, please consult with your SAF and your SSO network team.

Data, data, data. Isn't this about numbers instead of kids?

Data is a tool, not an end in itself, and data analysis is only useful if it helps us to understand and to meet the learning needs of actual children in our schools. We hope that the inquiry process will help to illuminate the specific learning needs of specific children—that the data will help you

to meet these students' needs and be treated and regarded as the tool that it is, rather than an end.

Will all this focus on underperforming kids take away from the other kids learning? Isn't it at their expense?

We do not think so. The focus on students outside the sphere of success does reflect a priority we hold to close the achievement gap, and to attend to the needs of students who have been least well served. On the other hand, we think focusing on these students is a "high leverage" strategy. In other words, whatever is learned by helping our most struggling students, will improve teaching generally in ways that help all students move forward. That has been the experience as reported by many team members in inquiry pilots. Specifically, they say that what they learned by focusing upon and improving outcomes for struggling students helped them become stronger instructionally across the board.

Do target population students need to be in the lowest third?

Students selected must be outside your school's sphere of success or likely to become so. We define "outside the sphere of success" as follows: that they are not likely to graduate on time, or that if they continue on the path they are on they will not be likely to graduate on time. Some students cannot be included in the school's official lowest third (students in pre-kindergarten through 2nd grade, for example, as they have not yet taken any high-stakes tests), but schools are at liberty to select these students if they have a valid, data-driven reason to do so. In addition, schools that have multiple Inquiry Teams may elect to have one focused on high-performing students.

What if we want to help well-performing students do better? Can we focus on these kids?

At least one Inquiry Team per school must work with target population students who are outside your school's sphere of success, as defined above. If you add a second Inquiry Team, one team could focus on improving performance of students already in your school's sphere of success.

What if we're teachers and don't have the formal authority to make the changes the inquiry process requires?

Every individual has agency and the ability to make change. System-level factors, however, often seem to conspire to make it hard to enact our personal leadership—to act on what we know is needed to move students or to take a risk. The power of Inquiry Team work is that you are part of a group, and this can give you more influence than acting alone. The Inquiry Team process offers an opportunity for a group at each school to select a group of students you would like to study and move, to put your heads and hearts together to learn all you can about what it takes to do so, and then to push forward according to whatever it is that you individually and collectively can control to improve the system, based on evidence of what you discover works.

Appendix III: Glossary

Distractor analysis: Analysis of well designed "distractors" (wrong answers) on an assessment to inform understanding of

student thinking and specific misperceptions.

Grain size: The size of a sub-skill or learning target. A learning target is granular enough ("of the right grain size"), if a teacher would know exactly what he or she would teach that student next to address that learning target.

Learning conditions: Conditions under which students are expected to learn the sub-skill and learning target, conditions over which educators have control. We have outlined these as what, how, how well, and who.

Learning target: A smaller, discrete component of a sub-skill that a particular target population student needs to learn next. Target population students may or may not struggle with the same learning targets.

Leverage: The idea from systems thinking that a small, strategic change can make a big difference.

Low-inference: As objective as possible.

Low-inference transcriptions: Verbatim written recordings of exactly what was said and done in a class, using participants' actual words.

Outliers: Examples that do not conform to a pattern when analyzing data.

Proficiency range: A range on some measure of past or current performance that will help to narrow your possible group of target population students in Phase I.

School-wide change: One type of change you may make in Phase III on the way to your ultimate goal of changing a decision-making system. We use the term “school-wide change” to describe when you take a tool or strategy that you discover is effective in Phase II and spread it across your school in Phase III.

School-wide focus group: Group of students outside the school’s sphere of success for whom the Inquiry Team is committed to accelerate learning in a specific content area.

Skill: A broad, core competency in a content area. For example, skills within ELA include *reading, writing, speaking, and listening.*

Sphere of success: Group of students for whom current practices are working. By this we mean that they are likely to graduate on time, or that if they continue on the path they’re on, they are likely to graduate on time. Every school has a sphere of success and a group of students who are outside the sphere of success. By “outside the sphere of success,” we mean that students are not likely to graduate on time.

Sub-skill: A smaller, discrete component of a skill. For example, sub-skills within reading include *phonemic awareness, fluency, and comprehension.*

Sub-population: A grouping of students to narrow the pool from which you will select target population students in Phase I.

System: Two or more interrelated parts for which the whole is greater than the sum of its parts. (Example: the human body or a sub-system within it, such as the circulatory

system.) Since everything in the world is interconnected in some way, you have to define the boundaries of a system. In this handbook, we talk about a school as a system. We also talk about sub-systems within a school as a system (for example, a decision-making system about “what is taught”).

System-level change: Change to a decision-making system in Phase III. This can also be called “system change.” Since change to a decision-making system may not be achieved all at once, we also use the term to refer to next steps toward this goal in Phase III.

Target population students: A small group (usually 15-30) of specific students that the Inquiry Team selects to study and move who are outside the school’s sphere of success but who have a strong record of attendance. They are not on track to graduate on time, or will not be on track to graduate on time if they continue on the same path.

Appendix IV: CFI low-inference transcript handout



"God is in the details." –Le Corbusier

"I used to concentrate on how a teacher delivers a lesson more than how the students receive the lesson. Now I notice things that I had never seen before, like the students' behavior, seating, or lack of response in class." – Teacher 2005

What are low-Inference transcripts?

Low-inference classroom transcripts are detailed records of what took place. They are an accurate rendition of what the teacher actually said and did and what the students actually said and did—just the words and actions with as little judgment as possible.

Low-Inference transcript example:

Ramp-Up Math Class, 11 students present

- Teacher: So tell me what an Angle Bisector is in your own words. *Writes the words "angle bisector" on the board*
- Student #1: That. *Points to the board*
- Teacher: Why? What does it do?
- Several Students: It cuts it in half
- Teacher: What is it?
- Silence*
- Teacher: "It" cuts the angle in half. What is "it"? What does that?
- Student #1: That. *Points to the board*
- Teacher: But what is that?
- Student #1: A line
- Teacher: So let's put that together. *Writes on the board, beneath the phrase "angle bisector" "An angle bisector is a line, ray or segment that splits an angle in half"*
- Teacher: So, if I say from now on, if I say bisect that angle, what are you going to do?
- Student #1: Cut it in half
- Teacher: Student #2 what are you going to do if I say "bisect that angle"?
- Student #2: Cut it in half
- Teacher: Student #3 bisect that angle
- Student #3: Cut it in half

Teacher: Student #4?
Student #4: Cut it in half

How are low-Inference transcripts different from supervisory transcript write-ups?

First, low inference transcripts are NOT used for supervisory purposes. They are used to:

- Deepen practitioners' ability to observe and reflect on their practice.
- Identify patterns across classrooms.
- Stimulate collegial discourse on narrowing the gap between teaching and learning.

Supervisory write-ups typically “summarize” what the observer has seen and/or heard. Even when they include quotes, the quotes are in support of an interpretation. Low-inference transcripts provide the facts without judgment or interpretation. Compare this excerpt from a supervisory classroom transcript write-up with the low-inference transcript that follows:

Write-up example: The teacher makes use of a cartoon to reach and engage visual learners. The teacher has students define the concept of “mimic” in their own words and engage in collectively creating a definition.

Low-inference transcript example:

Living Environment Class, 15 students present

Students are arranged in clustered desks. There are three groups of three, and three groups of two. As students come in they are assigned to the groups of two.

Projected onto a screen against the back wall is a Kliban cartoon. There is a drawing of a rhinoceros thinly disguised as a rhinoceros. The caption to the cartoon reads: “Don’t worry, according to the guide book we’re dealing with a rhino mimic.”

“Do Now” written on the board: Look at the cartoon and write down what you think a “mimic” is.

Student #1: What does the cartoon say? Can't read the words
Teacher: *Reads the caption*
Teacher: What is a mimic? In your own words
Student #1: A mimic tries to scare other animals off
Teacher: How does it scare?
Student #1: It looks scary
Teacher: It makes itself look like something it's not. How?
Student #1: Makes itself look big
Teacher: Student #2, can you read what you wrote?
Student #2: It tries to copy another animal to scare something
Teacher: In this cartoon, what is it trying to copy?
Several Students: A rhinoceros

Teacher: So who can come up with a definition of a mimic? Student #3?

Student #3: An animal that tries to copy...I don't know

Teacher: Good, we have the copy part. *Writes on board: Mimic: An animal that copies another animal to...*

Teacher: Why? Does anyone have anything to add?

Student #1: To protect itself

Teacher: *Writes on board a continuation of the definition: "increase its chance of survival"*

Low-inference classroom transcripts are designed, as much as possible, to filter out the inferences and assumptions we typically make about “why” something occurred. In so doing, they allow us to look more deeply at and influence “**what**” occurred.

The write-up example attributes motivation for having students describe the cartoon and define “mimic” in their own words--to engage students in collectively creating a definition.

A close analysis of the low-inference transcript indicates that it is the teacher, not the students, who actually constructs the definition.

This shift in perspective from Why to What provides:

- A deeper, more objective discussion of specifically what needs to change in teaching practice to improve student outcomes
- A means by which we can determine whether those changes have had the desired effect on student learning.

How can low-inference transcripts contribute to improving student achievement outcomes?

Low-inference transcripts can allow us to:

- Increase practitioners capacity to observe practice accurately.
- Engage in collegial conversations about a classroom event without debating the facts.
- Illuminate small changes in practice across classrooms that make a big difference in learning.
- Identify patterns within and across classrooms to inform more targeted professional learning.

How can low-inference transcription skills be learned?

Low-inference classroom transcripts require practitioners to acquire a new skill. As with any skill, it gets easier with practice. Typically novice transcribers struggle with speed, accuracy and stamina.

The following suggestions may be helpful in addressing these issues:

- Begin by recording what you hear and then move to what you see.
- build speed and accuracy by practicing often.
- Build stamina by practicing for longer and longer periods of time.

- When observing group work, focus on one group.
- Develop your own short hand.

How to begin?

Typically, practitioners initially feel uncomfortable observing each others' classrooms. Exposing practice to even another practitioner can make a teacher feel very vulnerable.

The following suggestions may be helpful in getting this practice started in your school.

- Start with yourselves, then ask for volunteers.
- Be clear that this is NOT about judging a particular practice or lesson. It is about identifying patterns across classrooms so that teachers can talk about and narrow the gap between teaching a learning.
- Model the analysis:
 - ✓ Have a clear purpose: looking for particular patterns across classrooms, not in any particular classroom.
 - ✓ Provide time to observe and type up transcripts.
 - ✓ Make sure that identifiers have been omitted.
 - ✓ Built trust by:
 - Agreeing beforehand on norms: NO JUDGMENT.
 - Let the teachers who have been observed do the analysis, not the teacher who did the transcription.
 - Keep the discussion focused on the evidence of learning, not the teaching practice.

Appendix V: Content/skill/sub-skill/learning target charts

Each team selects a content area, skill, sub-skill, and learning target. The first three are arranged in a hierarchy as below. A list of learning targets for each sub-skill in ELA and Math follows.

Content Area	Skill	Sub-skill
ELA	Reading	Phonemic Awareness Phonics Fluency Vocabulary Comprehension
	Writing	Meaning Development Organization Language Use Mechanics
	Speaking	Complex Sentence Structures Precise and Varied Vocabulary Logical Presentation Fluency and Pronunciation
	Listening	Listen respectfully and responsively Listening comprehension
Mathematics	Number Sense and Operation	Number Systems Number Theory Operations Estimations
	Algebra	Variables and Expressions Equations and Inequalities Patterns, Relations and Functions Coordinate Geometry Trigonometric Functions
	Geometry	Shapes Geometric Relationships Transformational Geometry Coordinate Geometry Constructions Locus Informal Proofs Formal Proofs
	Measurement	Units of Measurement Tools and Methods Units Error and Magnitude Estimation
	Statistics and Probability	Collection of Data Organization and Display of Data Analysis of Data Predictions from Data Probability

High Schools focusing on a Science or Social Studies Regents have the option of using the above chart to select a literacy or numeracy issue within that subject or focusing on Science or Social Studies content. A complete list of these is available at: <http://childrenfirstintensive.com/images/learning%20targets.pdf>

This list of learning targets was compiled to help get teams started thinking about them. It is by no means exhaustive. The ELA targets were compiled from the New York State English Language Arts standards, the National Reading Standards, the ECLAS-2, the NYSESLAT, and literacy experts such as Fountas and Pinnell, Aussie, Ellin Keene, Heidi Hayes Jacobs, Lucy Calkins, and Isabel Beck. The Math targets were compiled from the New York State Mathematics standards.

ELA – Reading: sub-skills and learning targets

Phonemic Awareness	Phonics	Fluency	Vocabulary	Comprehension	
Rhyme recognition	Alphabet recognition	Automaticity	Word structure	Topic recognition	Genre attributes and characteristics
Rhyme generation	Alphabet writing	Learning frequent words by sight	Prefixes, affixes, suffixes, roots etc	Using context clues	Background knowledge, predicting, making connections
Syllable clapping	Spelling patterns	Seeing phrases as wholes	Using Context Clues	Summarizing	Note taking
Initial and final consonants	Decoding	Using prediction skills within the phrase or clause	Synonyms	Self-monitoring	Cueing systems
Blending	Word structure	Inflection	Antonyms	Questioning	Text structure and features
Segmenting		Attention to punctuation	Homonyms	Literary story elements	Metacognition
			Tier 1 words	Inferring/drawing conclusions	Sensory images
			Tier 2 words	Interpreting graphics	Literary devices
			Tier 3 words	Relevant/irrelevant information	Sequencing
				Following multiple events in a text	Compare and contrast
				Character analysis	Retelling
				Synthesizing	

ELA – Writing: sub-skills and learning targets

Meaning	Development	Organization	Language Use	Mechanics
Student chooses their own subject for writing Understanding Interpretation Analysis Synthesis Evaluation Conveys a clear focus	Structure is appropriate to the genre Direction Shape Coherence	Elaboration Choosing relevant evidence from a text Explaining relevant evidence from a text Maintain focus	Awareness of audience and purpose Effective use of words Effective use of sentence structure Effective use of sentence variety Uses language appropriate to genre Voice	Grammar Syntax Capitalization Punctuation Paragraphing Spelling

ELA – Speaking: sub-skills and learning targets

Precise and varied vocabulary	Complex Sentence Structures	Logical Presentation	Fluency and Pronunciation	Speak respectfully and responsively
Technical vocabulary Figurative language Appropriate to the subject Appropriate to the context	Grammatically correct Multiple clauses Connectives Varied sentence structure	Information is plausible and precise Information is presented logically and with appropriate transitions	Accurate pronunciation of individual sounds Natural speech rate Intonation Rhythm	Respect the age, gender, social position, and cultural traditions of the listener Respond to what the listener has said Use speech in a socially appropriate manner

ELA – Listening: sub-skills and learning targets

Listen respectfully and responsively	Listening Comprehension	
Respect the age, gender, social position, and cultural traditions of the speaker Withhold judgment Appreciate the speaker's uniqueness Demonstrate appropriate body language as a listener Encourage the speaker with appropriate facial expressions & gestures	Topic recognition Using context clues Summarizing (identifying main idea & important details) Self-monitoring Questioning Literary story elements (plot, characters, etc) Inferring/drawing conclusions Relevant/irrelevant information Following multiple events in a text	Genre attributes/ characteristics Background knowledge/predicting/making connections Note taking (response) Text structure and features Metacognition Sensory images (visualizing) Literary devices (symbolism, metaphor, simile etc.) Sequencing

	Character analysis Synthesizing	Compare and contrast Retelling
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Mathematics – Number sense and operations: sub-skills and learning targets

Number systems	Number theory	Operations	Estimation
Counting Base ten system Greater than/less than Fractions Decimals Percents Irrational numbers	Properties of numbers (odd/even, prime/composite) Factors and GCF Multiples and LCM Prime factorization	Adding Subtracting Multiplying Dividing Fractions Decimals Percents Negative numbers Exponents Roots Factorial Absolute value Permutations Polynomials Complex numbers Sigma notation	Justify the reasonableness of answers using estimation Estimate addition Estimate subtraction Estimate multiplication Estimate division Round numbers to the nearest whole number, 10, and up to 10,000 Estimate sums, differences, products, and quotients of decimals Estimate sums, differences, products, and quotients of fractions

Mathematics – Algebra: sub-skills and learning targets

Variables and expressions	Equations and inequalities	Patterns, relations, and functions	Coordinate geometry	Trigonometric functions
One step equations Two step equations Translate verbal expressions into algebraic expressions Write verbal expressions that match given mathematical expressions Polynomials Graphs Factor trinomials Quadratics Exponential	Use the symbols $<$, $>$, $=$, \neq Proportions Evaluate formulas for given input values Distributive property Graph inequalities Linear equations and inequalities	Describe and extend sequences and patterns Analyze a pattern or function and state the rule Move between a table, an equation, and a graph Intersection	Solve systems of equations graphically Slope Determine the equation of a line Parallel and perpendicular lines	Sine, cosine, and tangent ratios of an angle of a right triangle Determine the measure of an angle of a right triangle Find the measure of a side of a right triangle Pythagorean Theorem

Mathematics – Geometry: sub-skills and learning targets

Shapes	Geometric relationships	Properties of solids	Coordinate Geometry
Congruency Similarity 2 dimensional shapes 3 dimensional shapes Perimeter Area Volume Surface area	Right triangles Total degrees in the interior angles of a polygon Pythagorean Theorem Perpendicular Parallel	Transformational Geometry Symmetry Reflection Translation Rotation Dilation	Plot points Graph an inequality Solve systems of equations graphically Slope Determine the equation of a line Parallel and perpendicular lines Midpoint, length
Constructions	Informal and Formal Proofs	Locus	
Congruent segments, angles, shapes Perpendicular/parallel lines Bisectors	Negation of statement Compound statements Proofs with triangles Proofs using parallel lines Proofs with circles	Medians, altitudes, angle bisectors, and perpendicular bisectors Graph and solve compound loci in the coordinate plane	

Mathematics – Measurement: sub-skills and learning targets

Units of measurement	Tools and methods	Units	Error and magnitude	Estimation
Use map scale Capacity Length Mass Unit price Currencies Rates Conversions between measurement systems	Mass Capacity Length Protractor	Time Angles Money	Explain how error can increase with magnitude	Justify the reasonableness of an estimate Length Mass Capacity Surface area Volume Area Circumference Capacity

Mathematics – Statistics and probability: sub-skills and learning targets

Collection of data	Organization and Display of Data	Analysis of data	Predictions from data	Probability
Pose questions Record and organize data Collect data from a variety of sources Understand the differences among various kinds of studies (e.g., survey, observation, controlled experiment) Determine factors which may affect the outcome of a survey	Bar graphs Venn diagram Frequency table Pictograph Line graph Circle graph Histogram Cumulative frequency histogram Box-and-whisker plot Scatter plot Normal curve	Interpret data in terms of the words: most, least, greater than, less than, or equal to Mean, median, mode, range Understand the difference between correlation and causation	Likely and unlikely Formulate conclusions Make predictions Identify and explain misleading statistics and graphs Identify and describe sources of bias and its effect Determine from a scatter plot whether a linear, logarithmic, exponential, or power regression model is most appropriate	Determine the validity of sampling methods to predict outcomes Predict the outcome of an experiment Design and conduct an experiment to test predictions Compare actual results to predicted results Conditional probability Permutations Theoretical and empirical probability Binomial probabilities

We'd love to hear your feedback.

If you have any questions or comments about the Inquiry Team Handbook, please contact the Office of Accountability Service Desk at OAServiceDesk@schools.nyc.gov or 212-374-6646.