



# DEVELOPING A STRONG ACADEMIC PROGRAM

Developed by reDesign, LLC for Michigan Future Schools



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## Contents

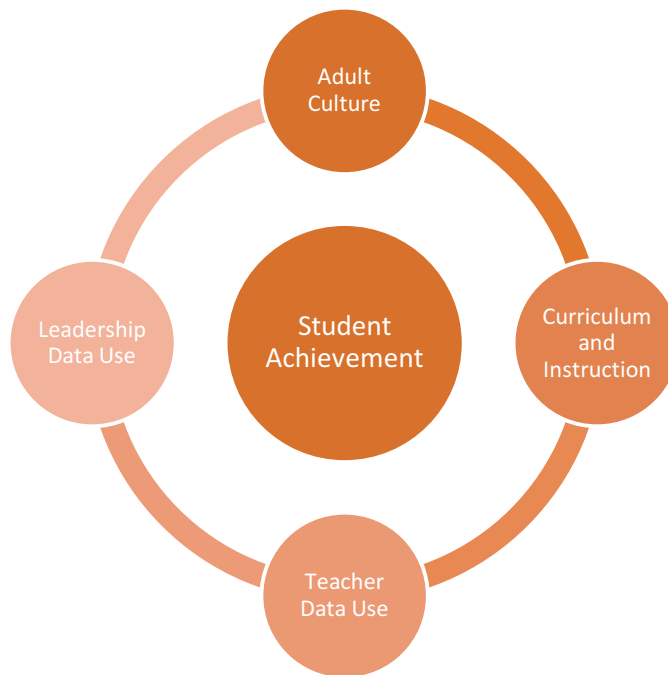
INTRODUCTION: The Main Thing .....	4
CHAPTER 1: Igniting a Staff Culture of Passion and Purpose.....	7
CHAPTER 2: Developing a Rigorous Curriculum and Effective Instruction.....	17
Overview: Assessment, Data, and Continuous Instruction .....	33
CHAPTER 3: Using Assessment Data in the Classroom.....	36
CHAPTER 4: Leading Assessment and Data Work.....	50

## INTRODUCTION: The Main Thing

The late Stephen Covey, personal and professional development guru, once wrote that “the main thing is to keep the main thing the main thing.” While he was not specifically addressing schools, his advice is especially important to educational leaders. With so many competing demands coming from all corners, it can be difficult to maintain focus on the ‘main thing.’ This is especially true when those demands have kept leaders from knowing what the main thing really is. School leaders ask, Is the main thing test scores? Is it student (and parent) satisfaction? Is it producing the graduates that colleges and business leaders want—even though their demands are sometimes at odds with one another? Or is the main thing something that is winding its way through the bureaucracy right now, in the form of yet another mandate from the state or federal government?

The premise of this e-book is that “the main thing” is student achievement, defined as successful enrollment in, and graduation from, four-year colleges. Student achievement should be at the core of what every school is about—and it is firmly at the core of Michigan Future Schools. Armed with this knowledge, school leaders have the first filter in place for making decisions about how to prioritize competing demands—they ask, ‘Does this promote student achievement or does it detract from our focus on the main thing?’

Effective schools are mindful of the micro and the macro, the input and the outcome, and the tangible and intangible that contribute to student achievement. While it would be impossible to quantify and describe in detail everything that contributes to student achievement, the research suggests that four complementary factors most powerfully feed student achievement: the adult culture, curriculum and instruction, teacher data use, and leadership data use. This e-book distills the essence of these topics—the ‘need to knows’—for busy school leaders and presents carefully chosen tools and resources. Addressing each element in its own chapter, the ebook provides guidance for how leaders can take concrete actions to address each piece individually, but also shows how the elements interrelate to create a cohesive whole.



- Chapter 1, **Igniting a Staff Culture of Passion and Purpose**, describes how to use mission, vision, and values to create an adult culture of collegiality and collaboration. Such a culture attends to the development of its faculty by an orientation toward continuous improvement.
- Chapter 2, **Developing a Rigorous Curriculum and Effective Instruction**, details the process for creating and delivering a rigorous guaranteed and viable curriculum, while presenting glimpses into how other schools fine-tune their approach to honor their unique vision while meeting the needs of their students. Chapter 2 also presents reDesign’s best-practices approach to delivering instruction that uses learning strategies and metacognition to ensure that all students develop higher-order thinking skills and can effectively access demanding content.
- Chapters 3 and 4, **Using Assessment Data to in the Classroom** and **Leading Assessment and Data Work**, discuss the two distinct but inter-related ways teachers and leadership use data. The main work of teachers is using formative assessment to collect data about student learning on a day-to-day basis, and planning or adjusting lessons to address needs they identify. This rapid-response work is done mostly at the micro level, addressing the needs of individual students at the smallest grain size of educational objectives. The instructional leadership team, on the other hand, conducts its assessment and data work at the macro level, acting on assessment data to help the organization to learn and professionals to grow and taking responsibility for making adjustments to programs to meet best meet the needs educational of all students.

School leaders can jump into this ebook at whichever point best meets their specific developmental needs. Schools in the planning phase can begin by establishing mission and vision, while those in their first year would focus on establishing a powerful adult culture and schools in their second year might begin by looking at the data they have collected. Regardless of where a school begins, however, it is important to recognize that chapters do not represent a series of steps to be completed, but an on-going

cycle of continuous improvement. While schools can enter at any point, only by attending to all of the elements can a school maximize student achievement—which is, after all, “the main thing.”

## CHAPTER 1: Igniting a Staff Culture of Passion and Purpose<sup>1</sup>

Teaching is difficult, demanding work. Despite this indisputable fact, there are schools that serve some of the most challenging students in the most challenging situations that are filled with teachers who push themselves each day to do more for their students than they ever believed was possible. Teachers in these schools demonstrate a strong commitment to their students and the community they serve, working hard and achieving remarkable results. This chapter explores the conditions and experiences that distinguish these teachers and their schools. reDesign's work with Michigan Future Schools and other networks and districts has demonstrated that the coherence, focus, and cohesiveness of the adult culture is an essential factor in supporting students on the path to a successful college education.

For the purposes of this work with schools, culture is defined as the values, routines, expectations, rituals, policies and practices that shape how a community functions. Everything a visitor would see on a walk through any school is culture made visible, from what hangs on the walls, to the arrangement of desks, to how members of the school community interact. Teachers in schools with strong positive, productive cultures go above and beyond policy expectations because of their deep sense of purpose and commitment, and their overall sense of professional fulfillment. More powerful than any extrinsic motivators, fulfillment and purpose are powerful intrinsic motivators, igniting a passion that carries them forward through setbacks, and helping them to focus on possibilities.

School culture can be thought of as being comprised of two complementary aspects: student culture and staff culture. While the interplay between the two is complex, a strong staff culture precedes a strong student culture. As Nancy and Ted Sizer remind us in their book, *The Students Are Watching*: school leaders must be mindful of the fact that students take their cues from the adults in the building—how the adults interact with one another and the values their actions reflect have an immeasurably profound impact on students. The culture that adults create for themselves is completely visible to the students and will be reflected, for better or worse, in the culture students experience and contribute to.

While culture is unique from school to school, research suggests that strong professional cultures have certain qualities in common. They are highly intentional and mindfully cultivated to:

- have clear guideposts for decision-making
- promote the growth and advancement of their members
- be flexible and adaptable, constantly seeking to improve
- be widely-embraced by the school community
- endure, persisting through changes in leadership and staff

This chapter will explore the practices that schools can adopt to create a powerful adult culture that serves to inspire and motivate all members of the school community.

### Guideposts: Mission, Vision, and Values

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<sup>1</sup> Kouses and Posner, who have devoted themselves to studying and writing about leadership, use the phrase 'passion and purpose to change things as they are' to describe the capacity to lead (2010, p. 5). It is adapted here to describe not only what it means to be an educational leader, but to define the essential qualities leaders should encourage in all staff members.

Schools with strong cultures begin by leveraging a powerful, multi-faceted tool for defining the culture they plan to establish: the articulation of a Mission, Vision and Values. While the mission sets the big goals for the organization, the vision provides an image of what one the school hopes to be and plans to become—in September and five years from now. The Values then detail the core beliefs and principles that will guide the decisions, activities, and actions of members in the community. These three building blocks become the foundation of the school’s culture when leadership commits to making them an explicit contract with the school community—and enlists others to champion them as well. They should be written to ignite the passion and purpose of and move stakeholders to action.

Mission answers the question, “Why are we here and what do we do?” The mission statement should define why the school currently exists and what the school emphasizes. Among the Michigan Future School’s Network, Detroit Edison Public School Academy defines its mission as to “prepare students entrusted to our care for a future as compassionate and caring global citizens and successful life-long learners.” Jalen Rose Leadership Academy offers a similarly concise mission statement, but adds an emphasis on college success: “...will empower all scholars to develop the strength of character, skills, and knowledge needed to matriculate, be great in, and graduate from college so that they have opportunities to be successful in the competitive world and to take care of themselves and the people that they love.” Other schools have mission statements that describe programs the school offers, such as the Benjamin Carson High School of Science and Medicine: “Benjamin Carson students will thrive in college, as they prepare to take on challenging professional endeavors in the area of science and medicine.”

Vision describes what the school—and in some cases, its graduates—will become. Visions should engage, excite, and inspire members of the school community and should be crafted to resonate with all stakeholders. Visions can vary greatly in length and complexity. It can be a single sentence, such as “Benjamin Carson High School of Science and Medicine will emerge as an exemplar for preparing all students to be leaders and agents of change who positively impact their world.” MC2 STEM High School in Cleveland built its page-length vision, which is linked below, around seven design principles, reflecting its commitment to bringing engineering practices into the classroom. Y Detroit Academy’s Vision, also linked below, encompasses students, graduates, parents, staff, and community members. The vision of the New York City iSchool (see sidebar) falls in the middle. Regardless of the length or form it takes, the vision gives shape and direction to the school’s future by creating an inspiring image of what can be.

Values statements articulate the key beliefs of the school. By explicitly stating its values, the school details how people in the school want to behave with each other, which can be especially valuable in challenging situations or when difficult decisions need to be made. These should be values to which all members of the school community agree to uphold. For example, Urban Academy states that its value of “Respect between students and staff removes the ‘us versus them’

barrier that can hinder learning in traditional schools.” Detroit Edison Public School Academy incorporates

#### **New York City iSchool**

NYC iSchool is dedicated to equipping students with the skills necessary for success and leadership in the 21st century. The iSchool program is designed to offer students opportunities to engage in meaningful work that has relevance to them and the world, choice and responsibility in determining their high school experience, and unique structures to support their development



a strong statement about its values into its mission statement: “Academic development is achieved in a dignified and supportive environment that incorporates diversity, family, staff, and community partnerships, in pursuit of educational excellence.” Both illustrate a key part of values statements: they are expectations for all members of the school community, not just the students.

Four principles that should be at the center of student learning and development could be an effective place to start in the crafting of the Mission, Vision, and Values Statement:

- Mastery of Rigorous Standards
- Personalization of Student Learning
- Empowerment and Support of Students
- Positive Youth Development

Settling on the "right-fit" mission, vision and values is typically an iterative process. The first mission statement might be too vague or sprawling, the vision might not paint a clear enough picture, the articulated values might, ultimately, not be shared by the full team. This is all part of the process. Schools should work to develop, and review, all three together to ensure that they present an integrated whole when taken together.

## Resources

- Y Detroit Academy Mission, Vision, and Values  
<http://ydetroitacademy.org/about>
- Benjamin Carson High School of Science and Medicine Vision, Mission, and Values:  
<http://www.bencarsonhs.com/about-us>
- Vision statement for MC2 STEM High School:  
<http://www.mc2stemhighschool.org/about/about-mc2/>
- A series of brief videos explaining elements of the strategic planning process (YouTube Author: virtualstrategist): <https://www.youtube.com/channel/UCc5cYNhQ8oYNdjmXBy7Z-ug>
- Developing a mission and vision (Chapter Two) from *How to Help Your School Thrive Without Breaking the Bank* by John G. Gabriel and Paul C. Farmer:  
<http://www.ascd.org/publications/books/107042/chapters/developing-a-vision-and-a-mission.aspx>
- *3 Statements That Can Change the World: Mission / Vision / Values* by Hildy Gottlieb:  
[http://www.help4nonprofits.com/NP\\_Bd\\_MissionVisionValues\\_Art.htm](http://www.help4nonprofits.com/NP_Bd_MissionVisionValues_Art.htm)
- Sample Values Statements:
  - Summit Public Schools - <http://www.summitps.org/whoweare/values>
  - Field Elementary School - <http://www.westonschools.org/index.cfm?pid=10356>
  - Green Dot Public Schools - <http://greendot.org/corevalues/>
  - Zappo's - <http://www.zappos.com/c/about-zappos>
  - Amnesty International - <https://www.amnesty.org/en/who-we-are/>
- Good Seeds Grow in Strong Cultures:  
<http://www.epiconline.org/good-seeds-grow-in-strong-cultures/>

- An alternative take on traditional strategic planning in *The Case Against Strategic Planning* by Robert Evans: <http://www.nais.org/Magazines-Newsletters/ISMagazine/Pages/The-Case-Against-Strategic-Planning.aspx>

## Helping Professionals Grow

Schools with strong cultures recognize that people, not programs, make the difference for students. They seek to ‘grow their own’ and promote from within. It is not unusual for schools with strong cultures to have principals who were once members of the school’s teaching ranks, or to be leadership ‘incubators’, turning teachers into leaders for other schools. The surest way to help professionals grow and develop into leaders is through collegiality.

Collegiality is the de-privatization of professional practice. While it is important to devote time to *congeniality*, for instance by recognizing important milestones in teacher’s lives, it should not be confused with collegiality. Getting along with one another and working together to improve teaching and learning are not the same thing. Congeniality describes the tenor and tone of adult interactions; collegiality measures their depth. Collegiality can only be fostered in schools that attend to it. Leadership’s role is to expect, model, reward, and protect collegial practices.

Roland S. Barth<sup>2</sup> describes what one would see in schools that value collegiality:

- Educators talking with one another about practice.
- Educators sharing their craft knowledge.
- Educators observing one another while they are engaged in practice.
- Educators rooting for one another's success.

Collegial practice can begin simply. Setting aside time during faculty meetings for teachers to present and model instructional practices or share student work can open the door for deeper conversations and lay the foundation for more advanced collegial work. Both veteran and new teachers should be encouraged to share and to seek feedback.

Another approach is to invite a small group of highly-skilled teachers to be a ‘public learning community’—a spin on the professional learning community model. At each gathering one member of the PLC presents an instructional challenge they are facing and invites other members of the faculty to share their ideas for addressing it. The teacher then uses elements of those ideas in their classroom and at a subsequent meeting reports back to the group. The teacher shares how the group’s ideas were incorporated into her practice and reflects on their effectiveness, thus the ‘public learning’ aspect. This can be a safe way for teachers to initially approach collegial practice, since no one is being asked to stand up as a ‘model’ teacher. Instead, by asking a skilled professional to share her struggles, it models importance of on-going professional learning for all teachers.

Schools that are ready to be more systematic about collegial practice will find that formal models for collegial practice abound in today’s school improvement literature. Professional Learning Communities, Critical Friends Groups, inquiry groups, learning walks, and lesson study are all viable collegial practices. While some schools may adopt a specific model in its entirety, it is not necessary to do so, as the power

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<sup>2</sup> <http://www.ascd.org/publications/educational-leadership/mar06/vol63/num06/Improving-Relationships-Within-the-Schoolhouse.aspx>

of the models lies in establishing purpose and providing legitimate reasons for established groups of educators to come together to improve professional practice through collaboration. School leaders should enact the elements of one or several models to create a homegrown version that best suits the needs of the school's professionals to improve their practice. Later chapters will describe some specific work that collegial groups should undertake throughout the launch and continued operation of a school.

Collegiality can also be fostered by flattening the leadership hierarchy and establishing differentiated roles within the school. The traditional structure of a single principal, assistant principal, traditional classroom teachers and support staff creates many barriers to creating real opportunities for collaboration, development, and differentiated growth for most teachers. In most current structures, excellent teachers must pursue roles that remove them from the classroom in order to access increased levels of compensation or influence. Effective schools are creating differentiated roles that allow teachers the opportunity to build expertise, take on new responsibilities, and continue to create opportunities for new learning and development.

A few examples of differentiated roles:

- Increased leadership opportunities: Master and mentor teachers:<sup>3</sup> Teachers are able to take on different levels of responsibility to build capacity in peer classroom teachers. Mentor teachers continue to teach on a reduced schedule while master teachers are full-time released from the classroom and work exclusively on observing and developing teachers.
- Decreasing administrative burden / leveraging expert capacity. Assigned teacher assistants/tutors, such as in the MATCH Tutor Corps at MATCH High School:<sup>4</sup> Creating teacher support roles, possibly junior teachers or teachers in training of some sort, who are able to offload administrative tasks for teachers such as copying, test paper grading, assignment creation, etc. This support role might allow teachers to increase time on more impactful direct work with students and parents.
- Differentiated expertise: Rigor, Relevance, Relationship and Success Coach roles, such as at the Cornerstone<sup>5</sup> blended learning high school: The role of pushing academic rigor, building meaningful connections with students and supporting coaching and support to meet meaningful goals are designed into specific roles that collaborate to collectively support students who are able to create self-paced learning plans using a variety of online learning tools.

Such differentiation has many benefits for all stakeholders. Teachers are empowered and can seek out opportunities for development and growth in areas of interest and passion—and more likely to be retained as they have a vested interest in maintaining strong programs and relationships. Differentiation allows the leadership team to provide tangible support to their teachers and to multiply their impact by promulgating effective practice throughout the school. Finally, differentiation benefits students as the quality of both *teaching* and *teachers* improves.

## Resources

- *Beyond Classroom Walls: Developing Innovative Work Roles for Teachers* by Julie Kowal and Dana Brinson: <https://www.americanprogress.org/issues/education/report/2011/04/14/9527/beyond->

<sup>3</sup> Milliken TAP model <http://www.talentedteachers.org/action/action.taf?page=pbcc>

<sup>4</sup> <http://www.matcheducation.org/join-us/match-corps-boston>

<sup>5</sup> <http://www.cornerstoneschools.org/>

[classroom-walls/](#)

- *Toward the structural transformation of schools: Innovations in Staffing* by Learning Point Associates, August 2009: <http://eric.ed.gov/?id=ED509963>
- All Things PLCs: <http://www.allthingsplc.info>
- Critical Friends Groups: <http://www.nsrffharmony.org>
- Data Team Toolkit from the Washington Department of Education: <http://www.k12.wa.us/CEDARS/Data/Toolkit.aspx>
- Lesson Study tools: <http://www.tc.columbia.edu/centers/lessonstudy/tools.html>
- Teacher Learning Walks: [http://www.scsk12.org/uf/memo/files/files/learning\\_walk2.pdf](http://www.scsk12.org/uf/memo/files/files/learning_walk2.pdf)

### Using Collaborative Accountability for Continuous School Improvement

Continuous Improvement is common and well-documented in many industries—particularly manufacturing, business and healthcare—but it is much less widespread within the field of education. A recent white paper, published by the Carnegie Foundation for the Advancement of Teaching,<sup>6</sup> powerfully articulates some of the reasons why education has been relatively slow to adopt this approach:

“...schools and districts are not organized in ways that promote continuous learning, work is often done in silos, policy demands push for quick results, data isn’t provided frequently or quickly enough for it to meaningfully inform and change practice, and poor outcomes are viewed as individual failures rather than a by-product of a misaligned system.” (Park; p. 7).

Accountability, the popular buzzword in Education today, is at the heart of continuous improvement. However, in the era of high-stakes testing, accountability can often sound more like a threat than like an essential part of a strong school culture. Because traditional leadership structures are hierarchical, in such systems teachers are accountable to principals, who in turn are accountable to the management organization or superintendent, who is overseen by the school board and/or charter authorizer. Priorities and goals are established and handed down and so accountability for student learning is frequently an exercise in ‘box ticking’. Accountability in these systems fails to yield significant, lasting improvement, because there is little reason for much investment when the model encourages compliance rather than ownership.

*Collaborative accountability*, on the other hand, is a model of continuous improvement that overcomes many of the obstacles inherent in most popular accountability models. Collaborative accountability is built upon the acknowledgement and agreement that improving student outcomes is the shared responsibility of all professionals. Collaborative accountability begins with collegiality, since collegiality leads to professional growth, which in turn builds capacity for collaborative accountability. Collaborative accountability acknowledges that individual teacher effort alone is not enough to help students achieve high academic standards. It breaks down the silos that confines educational improvement to individual classrooms.

Promoting collaborative accountability requires that structures be put into place to allow teachers and administrators to be chiefly accountable to one another for carrying out the school’s mission and meeting its goals. Schools that practice collaborative accountability have instructional leadership teams made up

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<sup>6</sup> S. Park, et al. 2013 <http://www.carnegiefoundation.org/resources/publications/continuous-improvement-education/>

of administrators and teachers, and *all* have a voice in establishing and maintaining the culture of the school. This does not mean that within a school hierarchies do not exist or are not necessary. However, principals in such systems strive to be one voice among many.

Schools that have successfully adopted this approach have cultures that manifest the following characteristics:

- The mission and vision guide conversations about improvement
- Expectations are high, clear, and shared
- Adults work in teams that are empowered to make decisions
- Information and data are shared openly
- Training and support are provided for individuals and teams, so that it is possible for them to take on improvement initiatives effectively
- Performance indicators are identified, and data is collected and analyzed
- There are clear ways to acknowledge and encourage individuals and teams: public and private celebrations and validations
- Individuals and teams understand how they, specifically, are critical to the endeavor: their ideas, questions and concerns are helpful to the work of continuous improvement
- Teams and individuals use a *design thinking* approach as part of the process of improvement: ideating, prototyping, testing, documenting and revising. This will create a culture of experimentation and innovation, where mistakes are viewed as learning opportunities not as failures.

Continuous improvement is challenging work, literally: It challenges schools to collectively look closely at the work they have done, and question its effectiveness. It challenges teachers to jettison what they have created (and are often, therefore, deeply attached to) and start over. It challenges educators to let go of what they know and can do, and risk learning how to do things differently—and before they do any of this, it challenges them to take the time to develop measureable indicators of performance, pilot ideas (to actually make sure they are improvements, not just changes); study best practices; examine the specifics of their own circumstances; and think deeply about whether processes should be improved, eliminated or disrupted.

While continuous improvement is challenging, it is also a perfect orientation for a mastery-based program: while students are demonstrating their increasing proficiency on learning targets, the educators and the program as a whole can mirror and model this same ethos, employing an evidence-based methodology. Staff members (and students) can collect and analyze performance data, measuring it against an identified standard. This will lead them to revise aspects of the overall program or individual classroom practice, and reevaluate, looking for measureable improvement. Clearly, to accomplish this, continuous improvement needs to be deeply embedded in the culture of the school.

Ultimately, an effective culture of continuous improvement results in a community that communicates “It’s what we do as an organization, as individual adults, students and families, and as teams. It’s part of how we evaluate ourselves and the program: How did we grow? What do we do better now than we did a month ago? 6 months ago? What needs improvement now, that we will be working on for the next month? 6 months?”

## Resources

- Design Thinking for Educators: <http://www.designthinkingforeducators.com>
- How to develop a culture of continuous improvement: <http://www.wikihow.com/Develop-a-Culture-of-Continuous-Improvement>
- The School Improvement Life Cycle:  
[http://www.cowetaschools.org/rhes/images/improvement\\_life\\_cycle.jpg](http://www.cowetaschools.org/rhes/images/improvement_life_cycle.jpg)
- *Improving Teaching and Learning with Data-based Decisions: Asking the Right Questions and Acting on the Answers* by Nancy Protheroe:  
<http://www.rogersschools.net/common/pages/DisplayFile.aspx?itemId=3497164>
- Sample Dashboards: <http://www.ed-fi.org/students/aaron/>

## Embracing the Culture

Anyone who has worked in teams in a professional setting is bound to be familiar with the Forming-Storming-Norming-Performing model of team development first introduced by Bruce Tuckman in 1964. Those who study the dynamics of organizations argue that these phrases of team development are both necessary and inevitable. School leaders who expect collaboration must accept that establishing and building trust is an on-going process and that a key means of creating trusting relationships is establishing norms. Norms define appropriate behaviors within a team or other group and, like the larger school culture they are part of, norms will emerge where none exists. To ensure that norms reflect and promote the values of the school and support, rather than undermine, a positive culture, it is necessary to be clear about the norms leadership wants to establish and—at times—to enforce those norms. In strong cultures, norms are an explicit agreement among group members about how they will interact, make decisions, communicate, and perform their work together.

Creating norms to build and enhance trust should begin with a commitment to presuming positive intentions and competence. Team members extend the benefit of the doubt to their colleagues, presuming that others' questions, comments, and concerns are genuine attempts to move an issue forward. They also acknowledge that as fellow professionals, others—regardless of experience or personal history—share a commitment to improvement and possess sound professional judgment. New teachers, veteran teachers, administrators, and non-professional staff all bring value to an organization and their contributions should be respected by one another. This can be challenging, as students, faculty and families often arrive with institutional experiences of distrust and so may regard each other with cynicism and skepticism.

Beyond this one essential norm, adult teams should establish, practice, and reflect upon a set of norms for their work. As team members become more comfortable with the use of norms, they should consider establishing explicit school-wide norms for adult-student and student-student interactions as well.

### Sample Norms for Collaboration

- We will invite and welcome the contributions of every member and listen to one another.
- We will keep our discussions, comments, and deliberations confidential.
- We will strive to build consensus rather than to rule by majority.

- We will be guided by our commitment to ensure success for all our students.
- We will treat each other with dignity and respect.
- We will listen first to understand, then speak to be understood.
- We will practice being open-minded.
- We will present problems in a way that promotes mutual discussion and resolution.

## Resources

- Norms of Collaboration Toolkit: <http://www.thinkingcollaborative.com/norms-collaboration-toolkit/>
- Building a Culture of Trust: <http://educationnorthwest.org/sites/default/files/trust.pdf>
- *The Seven Norms of Collaborative Work* by Diane Sweeney: <http://dianesweeney.com/the-seven-norms-of-collaborative-work/>

## Building an Enduring Foundation

Having a positive, effective school culture can't just be a means to an end; it must be a reflection of the value that school must be a place where all are welcome, all are valued, and all have a voice. Positive school culture cannot merely be seen as a way to improve test scores or graduation rates. While schools with strong cultures have academic success as the foundation of their mission, they understand that academics alone will not equip their students for success in college and beyond. They build a culture that includes helping students connect to the world outside the school, see professionals at work, and trust young people to learn to manage themselves, their time and their learning, while providing teachers with flexibility, agency and ownership.

Effective school cultures can be described as *asset-rich* and *asset-based*. Asset-rich schools provide all members of the school community with access to caring relationships, high expectations, meaningful participation, and shared decision-making. Adults, students and families have the opportunity to participate in important routines and practices, ceremonies and celebrations, rituals and routines. At the same time, these cultures are rich with shared stories, role models and heroes, powerful symbolism, logos and images, and touchstone phrases. In this way, culture is experienced as both tangible and existential.

Asset-based cultures focus on the potential and value of all members of the school community. These cultures see what is working, rather than focusing on what is not. They see potential, rather than deficits, in individuals. They do not ignore realities, but approach challenges with the attitude that they are opportunities rather than roadblocks. They embrace what Jim Collins in *Good to Great* described as the 'Stockdale Paradox': they retain faith that they will prevail in the end, regardless of the difficulties, and at the same time, they confront the most brutal facts of their current reality. In these cultures, leaders name, rather than ignore, the big issues that they will confront. They do so to accept responsibility for overcoming them and believing in their core that they will succeed.

Boston Day and Evening Academy, whose mission is to serve over-age, under-credited students from across the city, exemplifies the way in which student culture reflects staff culture. One student stated that upon entering the school his plan to earn his diploma was to 'put my head down, do my work, and



just stay away from everybody.’ This proved to be impossible, however, since his plan collided with the school’s strong culture of collaboration. ‘Now, I know that everyone here is in it together,’ he said. ‘We all want the same thing, so we try to help each other out.’ While he may have thought he was only talking about the students, in reality he was describing the culture that the teachers are also deeply committed to maintaining: Teachers who are new to BDEA work with a mentor partner as part of their induction into the school. Teachers, administrators, counselors, and social workers collaborate regularly and frequently to develop and monitor the individualized student graduation plans that are an integral part of the school’s design. Teams are currently working to create common benchmark assessments to ensure that students are truly competent when they finish a course. The adults at BDEA work hard to create for themselves the culture that will embrace and support students, understanding that when it comes to culture, actions truly speak louder than their words.

Though addressing the business world, Jim Collins asks two questions that shed light on building enduring school cultures: “When you’ve built an institution with values and a purpose ... when you’ve built a culture that makes a distinctive contribution while delivering exceptional results—why would you capitulate to the forces of mediocrity and succumb to irrelevance? And why would you give up on the idea that you can create something that not only lasts but deserves to last?”<sup>7</sup> The culture at BDEA—as well as other schools described in this chapter—endures because they put all the pieces together: clarity of vision, growth-orientation, a focus on improvement, and commitment to the culture. By proclaiming, ‘This is who we are and we welcome and value you,’ enduring school cultures persist because individuals nurture the culture that nurtures them. Strong cultures are the self-perpetuating virtuous cycle in action.

Listed below are two simple instruments for measuring a school’s professional culture. Established schools can use or adapt the surveys to assess the culture in place. Schools that are in pre-launch phases can use the surveys as planning documents to help them identify and prioritize those elements of school culture they intend to attend to first. All schools can bring groups together to use the surveys to ask, “What would it look like if ... ?” then develop specific plans to make the vision of a strong—or stronger—culture a reality.

#### Sample School Culture Surveys

- <http://www.nationalachiever.com/schoolculturesurvey.pdf>
- [http://www.state.nj.us/education/students/safety/behavior/njscs/NJSCS\\_Staff\\_Q2.pdf](http://www.state.nj.us/education/students/safety/behavior/njscs/NJSCS_Staff_Q2.pdf)

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<sup>7</sup> Fortune Magazine, May 2008; retrieved from [http://www.jimcollins.com/article\\_topics/articles/secret-of-enduring-greatness.html](http://www.jimcollins.com/article_topics/articles/secret-of-enduring-greatness.html)



## CHAPTER 2: Developing a Rigorous Curriculum and Effective Instruction

A school's academic backbone is comprised of the curriculum (what to teach) and the instruction (how to teach). Unfortunately, start-up schools are highly challenged in the development of these key pieces because of the many operational demands that consume leaders' time in the lead-up to a school's opening. In start-up high schools, launching with a ninth grade, the development of rigorous curriculum and effective instruction should be approached as a six or seven year journey, with two or three years of tinkering and revision occurring for each grade level.

This chapter begins with a discussion of the characteristics of a high quality curriculum, then moves to an in-depth description of the instructional practices and learning strategies that form the core of a Framework for Effective Instruction (FEI) developed by reDesign to support teachers in developing classroom practice that effectively prepares students for the rigors of college (The FEI has been implemented in a number of the Michigan Future Schools).. The chapter closes with a tour of an FEI lesson plan, which demonstrates the integration of rigorous curriculum delivered through effective instruction as a vehicle for post-secondary preparation.

### Choosing and Developing a High-Quality Curriculum

Curriculum is a term often loosely applied to a range of learning assets, from course syllabi, to scope-and-sequence documents, to unit and lesson plans, and now, in the age of blended-learning, to the student-facing materials students can access on-line. Regardless of the form it takes, curriculum can be defined as *the essential content, skills, and understandings explicitly and precisely stated as measurable learning goals for students.*

This definition seeks to establish some foundational principles about effective curricula:

- States and districts have identified the content, skills and understandings that they expect packaged and teacher-developed curriculum to address.
- Skills, as the means through which students access content, are a vital component of curriculum.
- Understandings help to focus teaching and learning on the big ideas within a field of study and are a key to moving students to higher-order thinking.
- Learning goals that are explicit and precise help teachers support students in mastering articulated content, skills, and understandings.

Start-up schools are faced with significant curriculum challenges, as much of what is available “off-the shelf” is not sufficiently rigorous and engaging to support high school students with significant gaps in their skills and knowledge as they prepare for college. However, new schools that launch with the intention of creating their own curriculum are often hampered by the short design and planning cycle available before a September launch (teachers are typically on-boarded in July, leaving 6-8 weeks for design and development of learning assets). Some of the smoothest and most coherent school launches have occurred in schools that adopted a hybrid approach to curriculum, coupling the purchase of high quality assets with the school- or district-based development of complimentary materials (often in the form of performance-based tasks that will prepare students for college).

### Criteria for a High-Quality, Rigorous Curriculum

For both new and establish schools, curriculum evaluation should be an on-going process designed to ensure that the curriculum is effectively preparing students to be college and career ready. The eight “big ideas” that described below form the core of an effective curriculum review process designed to identify rigorous, college-preparatory learning assets.

#### **1. Supports the School’s Mission, Vision, and Values**

Schools must ask themselves, “Will our curriculum produce the graduates our mission and vision promise?” Curriculum is one of the most powerful tools a school has for making its mission and vision become reality; therefore, the curriculum must reflect the mission and vision. For example, at the Bushwick School for Social Justice in New York City, students design and implement collaborative and individual projects that explore issues of social justice. At the Benjamin Carson High School of Science and Medicine, students take courses in scientific research and medical ethics. In both instances, the curriculum is a key vehicle for transmitting the school’s mission and vision. If a school has a very particular mission, it can be challenging to find a ready-made curriculum that will address it effectively.

#### **2. Provides Coherence**

A quality curriculum is coherent, both vertically and horizontally. As students progress from grade to grade and move from classroom to classroom, they should develop deeper understandings of their previous learning and have the opportunity to see the organic connections within and across subject areas. The curriculum must be designed to provide students with multiple opportunities to hone their knowledge, skills and understanding, both within and across subject areas and grades. In most schools, this is a tremendous challenge, with individual teachers working in isolation to determine what students will learn. Curriculum development and purchase is also typically undertaken by individual departments, teachers, or grade-levels, increasing the likelihood that student learning will be fractured and disconnected.

#### **Authentic Work Promotes the Mission and Vision at the Cleveland School for Science & Medicine**

The Cleveland School for Science and Medicine has a curriculum that is tightly aligned with the school’s mission and vision.

Students take four year-long science classes during their freshman and sophomore years, which allows them to meet the state graduation requirements in two years—rather than four—and prepares them to do advanced high school and post-secondary science courses during their junior and senior years.

The curriculum also prepares students to do authentic work through internships and student-designed projects. For example, students can participate in a summer research program hosted by Case Western Reserve University or work at the Cleveland Clinic.

One student describes how studying the increased incidence of type 2 diabetes in African-Americans led her to develop a program to help educate her community about the dangers of the disease.

### Building Curricular Coherence while Honoring Student Choice and Voice

Casco Bay High School in Portland, Maine, leverages its Expeditionary Learning approach to organize a series of teacher- and student-designed projects that include a week-long 'Junior Journey'. In the spring of 2013, CBHS students completed a cross-disciplinary expedition centered on the Upper Big Branch Mine explosion in West Virginia. As part of the project, they researched and presented policy briefs to environmental and energy experts, fundraised, and worked with Habitat for Humanity. The expedition concluded with the premier of a DVD of multimedia oral histories documenting the stories of West Virginians interviewed during the trip. As seniors, the same students used what they gained from this experience to design and implement their own individualized learning expeditions.

### 3. Is Both Guaranteed and Viable

Robert Marzano describes an effective curriculum as "guaranteed and viable".<sup>8</sup> A student's experience of the curriculum should not be determined by whose classroom they find themselves in—it should be guaranteed that each student will have the opportunity to learn the essential knowledge and skills to prepare them for what comes next. Alignment must exist among what the school claims is being taught, (the *intended* curriculum), what is actually being taught (the *implemented* curriculum), what is on the test (the *assessed* curriculum), and what the student has learned (the *attained* curriculum). For a curriculum to be viable, enough instructional time must be available to adequately address its

essential elements. When decisions must be made about what is to be included and what is to be left out, those decisions must be made collaboratively—by teacher teams and instructional leaders—and not individually. In Benjamin Caron's first year, it became clear that some students were reading at an elementary school level and were thus unable to successfully attain the school's curriculum. In response, the school reorganized coursework so that struggling readers were provided with significantly more time to develop effective literacy skills.

### 4. Focuses on Big ideas

Scientists, mathematicians, and historians explore big ideas and questions that have personal significance. All too often, the high school curriculum is devoid of this focus, asking students to consume and account for a litany of disconnected facts and concepts. UBD's 'Essential Questions' and 'Enduring Understandings' are perhaps the most well-known way to label the big ideas in a curriculum. Whatever label a school chooses, however, organizing the curriculum around ideas central to the field of study will help students to build the powerful schema that experts use to turn discrete facts into meaningful knowledge and useful models.

### Individualizing the Guaranteed and Viable Curriculum

Establishing a set of competencies for students to master is one way to ensure a guaranteed and viable curriculum. Ensuring that its graduates are college and career ready is uniquely challenging for Boston Day and Evening Academy because of the population it serves. While their over-age and under-credited students enter with significant gaps in content knowledge and skills, they also have more of both than their transcripts would indicate. By developing an individualized learning path for each student focused on mastering common rigorous school-wide competencies, rather than earning credits, BDEA prepares its students for post-secondary success.

<sup>8</sup> Marzano, R (2003) *What Works in Schools* <http://www.ascd.org/publications/books/102271/chapters/A-Guaranteed-and-Viable-Curriculum.aspx>

### Fostering Rigor Through Big Ideas

Urban Academy in New York City bills itself as “A Small School with Big Ideas.” Their ‘inquiry teaching’ approach to the curriculum challenges students to critically analyze positions—including their own—through the use of focusing questions. Their course catalog is ever-evolving and students are free to choose classes based on interest and experience, rather than class standing. At the start of each semester, all students choose a special project lasting two to three weeks and taking most beyond the school walls to take advantage of the learning resources the city has to offer. Teachers are able to ensure that all students demonstrate mastery of rigorous core proficiencies through their focus on big ideas and challenging, engaging questions.

### 5. Is Authentic

Authentic curriculum is ‘real-world’, connecting to students’ experiences, histories, and concerns, while allowing them to develop their sense of agency as they work to solve problems that are personally important to them.

Authentic curriculum provides students opportunities to engage in both college-preparatory tasks such as those they will face in post-secondary education, as well as in the same kinds of work professionals in the field perform. Such high-level and engaging work is built upon a foundation of a rich assortment of primary-source texts, rather than relying solely on textbooks or other ready-made materials.

Many schools provide opportunities for authentic work through connections to the school community, such as with internships or

community service requirements. MC2 STEM High School, which is located on the campus of GE’s lighting division, brings their community partners into the classroom. Engineers work side-by-side with students, providing feedback and expertise as students work on technology projects.

### 6. Honors Student Choice and Voice

Student engagement and motivation are heightened by student choice and voice<sup>9</sup>. Even within the context of a guaranteed and viable curriculum, many opportunities for genuine student choice and voice exist when the curriculum is intentionally designed to provide multiple pathways to learning. When curricula give students choice and voice, students and teachers become co-creators or co-constructors of knowledge. The role of the teacher changes from that of ‘sage on the stage’ to ‘guide on the side’ as they become facilitators for learning rather than dispensers of knowledge and assignments. Choice and voice can be encouraged in ways both large and small. For instance, English and Social Studies curricula can include literature circles; in science and math, units could include opportunities for students to undertake original research.

### 7. Teaches Higher-Order Thinking, Metacognition, and Reflection

Quality curricula incorporate explicit instruction in higher-order thinking, metacognition, and reflection, along with multiple opportunities to practice these skills in the context of meaningful learning. This explicit instruction provides the scaffolding necessary to ensure that all students, regardless of prior academic experience, are able to successfully engage in rigorous work. All students should engage in inquiry, wrestle with complex problems, and explore rich texts as they create meaning and reflect on their learning processes. For example, the list of learning strategies included on page 8 below could form the basis for curricular outcomes related to critical thinking and metacognitive awareness.

<sup>9</sup> Toshalis and Nakkula (2012) offers an overview of the research into the relationship among student engagement, motivation, choice, and voice. <https://www.nmefoundation.org/getmedia/e5cef30c-5935-434e-a360-aea3e5d70dd2/Motivation-Engagement-Student-Voice-Students-at-the-Center>

## A FRAMEWORK FOR EFFECTIVE INSTRUCTION

Instruction is the implementation of the curriculum. No matter how high-quality and rigorous the curriculum, if the accompanying instruction is not strong, students are unlikely to learn at high levels, and many students will become disaffected and disengaged as they struggle to achieve its outcomes.

The Framework for Effective Instruction (FEI), an instructional model developed by reDesign over the past decade, was created specifically to assist schools serving students who struggle academically because of significant gaps in their skills, knowledge and understanding of college preparatory material. To this end, it helps teachers learn to create effective scaffolds for student learning, focusing on the inter-related nature of teaching and learning activities, and providing a unified approach to high-impact teacher **instructional practices** and powerful student-centered **learning strategies**.

Each of the FEI's instructional practices is grounded in research and best practice: The structure of FEI lessons is strongly informed by The Workshop Model<sup>10</sup>, Understanding by Design's Backwards Planning<sup>11</sup>, and Sheltered Instruction's approach to creating "sheltered" opportunities for English Language Learners to explore academic content.<sup>12</sup> Using a purposeful lesson structure, the FEI incorporates explicit instruction in student-centered learning strategies<sup>13</sup>, the higher-order thinking skills described by Benjamin Bloom, and metacognition.<sup>14</sup>

### Lessons the FEI Way

In **Preparing** FEI Lessons, teachers assess student progress in relation to both curriculum objectives and identified Learning Strategies. Lessons begin with a **Launch**<sup>15</sup> into the day's new material, which helps students become focused on the lesson. The middle—and major—portion of the lesson is devoted to active and collaborative student **Investigations**<sup>16</sup> designed to deeply explore new material. The close of the day is devoted to **Synthesis**,<sup>17</sup> providing students with the opportunity to notice both what they have learned and how they have learned it, while providing teachers with formative assessment data that will inform planning for the next day.

Each portion of the FEI's Workshop supports practitioners in implementing a set of proven instructional practices. While the FEI is prescriptive in its emphasis on a highly strategic approach to creating a student-centered learning environment, the range of activities that support this work is broad

<sup>10</sup> Workshop Model Lessons have always been organized around 3 broad segments of time: The Mini-Lesson, Guided Practice, and The Wrap-up. (Calkins, L. & S. Harwayne. *The Writing Workshop, a world of difference*. NH: Heineman: 1987). More recently, the National Science Foundation funded the development of a math textbook series published by Pearson that evolves the Model by detailing the process for creating a Problem-Based Lesson Launch, an Investigation, and a Wrap-Up. (*The CME Project*: Pearson. 2009:

<http://www.pearsonschool.com/index.cfm?locator=PSZ16d&PMDBSUBCATEGORYID=&PMDBSITEID=2781&PMDBSUBSOLUTIONID=&PMDBSOLUTIONID=6724&PMDBSUBJECTAREAID=&PMDBCATEGORYID=806&PMDBProgramID=53341>). The FEI has adapted both of these models, using the Launch and Investigation to describe the first two sections of the workshop, and reconceptualizing the Wrap-Up as a moment of Synthesis and Reflection.

<sup>11</sup> Wiggins, G., J. McTighe. *Understanding by Design*. VA: ASCD. 1998.

<sup>12</sup> The SIOP Institute has created a powerful, research-validated training series on sheltered instruction. Some of the core tenets of the SIOP model are equally powerful when used with students for whom academic language is essentially a second language. *Building background knowledge*, is one of these tenets. SIOP Institute: <http://www.siopinstitute.net/>. The SIOP Institute is now part of Pearson Publishing.

<sup>13</sup> Most often described as 'literacy strategies', they were popularized by Keene and Zimmermann in their book *Mosaic of Thought* (2007).

<sup>14</sup> Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *American Psychologist*, v34 n10 p906-11 Oct 1979.

<sup>15</sup> Visit <http://www.youtube.com/user/redesignu?feature=mhum#p/a/u/2/RpdPlcEj1YQ> for a video of the FEI Lesson Launch by Antonia Rudenstine.

<sup>16</sup> Visit <http://www.youtube.com/user/redesignu?feature=mhum#p/u/3/zt1XPjOhHcl> for a video of an FEI Investigation by Antonia Rudenstine.

<sup>17</sup> Visit <http://www.youtube.com/user/redesignu?feature=mhum#p/u/1/cOWdOWMBdpU> for a video of the FEI Synthesis Period by Antonia Rudenstine.



and deep. For instance, in **launching** a lesson, teachers begin by activating students' prior knowledge and experience, in addition to expanding their background knowledge<sup>18</sup> or working-schema.<sup>19</sup> This might be done through the use of anticipatory activities,<sup>20</sup> the modeling of a literacy strategy,<sup>21</sup> or a word or concept study.<sup>22</sup> The Launch provides students with guided access to new material, where the teacher plays the role of expert co-creator or collaborator, actively working with students to broaden and deepen their knowledge and skill-base.

The middle portion of each FEI lesson is devoted to student investigation. While teachers and students are co-creators during the launch, during the investigation students' peers are their primary collaborators. As frequently as possible teachers allocate sixty percent of the period to investigation, where students undertake an exploration of the lesson's (higher-order thinking) objective. During this time, schema for content-specific knowledge and skills are expanded with explicit building-background techniques, reinforced by collaborative investigations and opportunities to synthesize new learning. There are many effective structures for investigations, some involve long-term efforts, such as inquiry groups<sup>23</sup> or explorations of a set of multi-media resources; others can be conducted in as few as 1-3 days. A Socratic seminar,<sup>24</sup> or a practice session in applying a strategy or skill modeled during the lesson launch,<sup>25</sup> are examples of short-term investigations. The four key features of an effective investigation are:

- the exploratory nature of the work;
- the active and explicit use of Learning Strategies during the investigation;
- the highly social or interactive nature of the student learning;<sup>26</sup>
- the facilitative role of the teacher: offering feedback and support, instead of actively making meaning for the students.

Lessons close with students **synthesizing**<sup>27</sup> their learning in a learning log or double-entry journal,<sup>28</sup> on an exit ticket,<sup>29</sup> through a class "thoughtstorm,"<sup>30</sup> or a whole-class sharing period. The purpose of the

<sup>18</sup> The SIOP Institute <http://www.siopinstitute.net/>.

<sup>19</sup> Schema Theory in education and psychology was initially developed by Sir Frederick Bartlett (*Thinking: An experimental and social study*, London: George Allen & Unwin. 1958). Schema are "structures which organize our knowledge and assumptions about something and are used for interpreting and processing information; mental frameworks centering around a specific theme that helps us to organize social information" ([http://en.wikipedia.org/wiki/Schema\\_%28psychology%29](http://en.wikipedia.org/wiki/Schema_%28psychology%29)).

<sup>20</sup> *Anticipatory Activities* are activities that are designed to literally help students "anticipate" the learning to come. They are particularly useful as part of a launch into a difficult concept or text, providing students with an initial schema to build upon during the investigation. <sup>20</sup> Kelley Gallagher is a gifted ELA teacher whose texts are chock-full of wonderfully engaging activities, in addition to providing readers with tools for supporting students in becoming deep readers and "crafty" writers. *Deeper Reading* is one of Gallagher's best texts for learning about anticipatory activities (ME: Stenhouse. 2004).

<sup>21</sup> The first TSI Handbook (*A Professional Learning Path to Rigorous and Relevant Instruction*. OMPG: 2008) details the Learning Strategies in detail. In addition, both Stephanie Harvey and Anne Goudvis have written extensively about how to use literacy strategies to analyze both fiction and non-fiction. *Strategies that Work* (ME: Stenhouse. 2007) is a seminal text in the field of literacy instruction, and is provided to all participants in the LAC Project.

<sup>22</sup> Word and concept study activities provide students with the opportunity to learn and apply strategic learning practices to the building of an academic vocabulary. One of the best new books on this topic is *Word-Wise, Content-Rich*, by Douglas Fisher and Nancy Frey (NH: Heineman. 2008). Fisher and Frey are also co-authors of numerous books that emphasize strategic, active and collaborative learning. Many of their texts provide activities that work well as the centerpiece for FEI Investigations.

<sup>23</sup> Stephanie Harvey and Harvey Daniels are some of the foremost writers on collaborative inquiry for both fiction and non-fiction texts. Their training is with elementary-age students, but their work is highly applicable to the high school classroom. Harvey, S. & H. Daniels: *Comprehension & Collaboration: Inquiry Circles in Action*. NH: Heineman. 2009.

<sup>24</sup> The Socratic Seminar has its roots in the work of Mortimer Adler (*The Paideia Proposal*, 1982). Drawing on Socrates' inquiry-based questioning techniques, Adler's work details a process for a collaborative text-based inquiry.

<sup>25</sup> Harvey, S. & A. Goudvis. *Strategies that Work*, 2. ME: Stenhouse. 2007.

<sup>26</sup> Lev Vygotsky and Jerome Bruner both describe this learning as "social constructivism: where meaning is constructed by students through their intellectual engagement with each other and their environment (Vygotsky: *Thinking & Speech*, 1934; Bruner: "The Narrative Construction of Reality" (1991). *Critical Inquiry*, 18:1, 1-21. More recently, the SIOP Institute adopted the practice in their ground-breaking work with English Language Learners, making the case that students must have frequent opportunities to talk about what they are learning if they are to truly learn it (Echevarria, J., M Vogt, & D. Short: *Making Content Comprehensible for English Learners*. MA: Pearson, Allyn & Bacon. 2004).

<sup>27</sup> Synthesis is one of the highest levels of cognitive thinking as originally articulated in Benjamin's Bloom's Taxonomy (1956), and later revised by Anderson & Krathwohl in 2001. Originating in ancient Greek is refers to the work of combining ideas or elements together into new patterns, forms or solutions: [http://en.wikipedia.org/wiki/Taxonomy\\_of\\_Educational\\_Objectives#Cognitive](http://en.wikipedia.org/wiki/Taxonomy_of_Educational_Objectives#Cognitive).

synthesis period is three-fold: First, it helps students consolidate their learning, by expanding or modifying their working schema.<sup>31</sup> Second, it asks students to reflect upon the Learning Strategies they used (metacognition), helping them to develop an understanding of how to effectively apply these tools to a range of learning situations. Finally, it provides teachers with formative assessment data on both the academic content and skills students are learning (and struggling with), in addition to their capacity to use the Learning Strategies (the tools that will help students become independent learners).

Another powerful contribution of the FEI is its rethinking of scaffolding. Typically educators define scaffolding as the process of breaking **content information and concepts** down into small pieces (textbooks and lectures are the most common vehicles for this), in the hopes that they will be “easily digestible” for students who lack extensive background knowledge. However, scaffolding within the FEI refers to the practice of breaking **the learning process** down into identifiable and accessible **learning strategies** that students can master through explicit instruction and opportunities to practice. While the former relies on teachers to establish what is important for students to learn, leaving students dependent on teacher determinations in addition to their particular body of knowledge, the FEI takes a learner-centered approach, teaching students how to make these decisions for themselves and empowering them to become truly independent learners. This approach to scaffolding requires a set of instructional practices that encourage active practice, investigation and synthesis, rather than the passive consumption of lectures that is more common in high school classrooms.

The FEI’s explicit approach to teaching Learning Strategies begins the work of addressing the challenges of urban education. The FEI is rooted in the premise that all students, regardless of prior educational experience, are entirely capable of higher-order thinking, and in fact, engage in it as a regular practice in their personal lives as they navigate their family and community responsibilities. The challenge for struggling or disengaged students is the application of these skills to an academic context. Without the requisite background knowledge and Learning Strategies available to their peers, these youth do not have access to the tools they need in order successfully bridge the gap that exists between higher-order thinking within the personal and academic spheres. The FEI’s Learning Strategies are intentionally designed to provide students with much of this “college knowledge.”<sup>32</sup>

**Literacy strategies** are at the center of the FEI in order to address the needs of all students, but especially those reading below a high school level.<sup>33</sup>

Cognitive skills are strengthened through the design of content-area investigations that emphasize **higher-order thinking**.

Academic behaviors are developed by teaching the **metacognitive skills** of planning, monitoring, and evaluating the use of techniques, the quality of one’s understanding, and one’s overall performance.

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<sup>28</sup> Learning logs and double-entry journals allow students to write about two facets of their learning: the new content and skills they are exploring AND the Learning Strategies they are using to in order to effectively expand their knowledgebase. Tompkins, G. E. Samples from “Compendium of Instructional Procedures” In *Literacy for the 21<sup>st</sup> Century*, 3<sup>rd</sup> ed. (p. 473). NJ: Merrill. 2003.

<sup>29</sup> WritingFlx.com describes a number of wonderful ways to construct exit tickets that help students synthesize their new learning. [http://www.writingfix.com/WAC/Exit\\_Tickets.htm](http://www.writingfix.com/WAC/Exit_Tickets.htm)

<sup>30</sup> *Thoughtstorms* are facilitated group processes that lead participants to synthesize new learning by sharing big ideas and questions in a “brainstorm-discussion” format. (Palmer, H. *Thoughtstorm*, Stars Edg. Intl. 1999).

<sup>31</sup> Wikipedia on learning within schema theory: “New information that falls within an individual’s schema is easily remembered and incorporated into their worldview. However, when new information is perceived that does not fit a schema, many things can happen. The most common reaction is to simply ignore or quickly forget the new information. This can happen on a deep level—frequently an individual does not become conscious of or even perceive the new information. However, when the new information cannot be ignored, existing schemata must be changed” ([http://en.wikipedia.org/wiki/Schema\\_%28psychology%29](http://en.wikipedia.org/wiki/Schema_%28psychology%29)).

<sup>32</sup> Conley, D. *College Knowledge*. Jossey-Bass. CA: 2005.

<sup>33</sup> Parthenon Research



## The Instructional Practices

**Backwards Planning** is the practice of developing plans (at the course, unit, and lesson levels) by beginning with the end in mind. Teachers first identify desired results and determine acceptable evidence of student mastery, and then design learning experiences and instruction to lead students to those outcomes. Rather than coverage of the content, learning often takes place through “uncoverage”, described by Wiggins and McTighe (2005) as students using inquiry into big ideas to make connections and inferences to lead them to deeper understanding.

**The Workshop Model** organizes lessons around three phases: launch, investigation, and synthesis. The launch, which typically takes no more than 20% of the class period, is when the teacher delivers content and models skills and learning strategies through lecture, demonstration, and think-alouds. The investigation, making up about 60% of the class period, is the opportunity for students to explore the objective, practice and apply new skills, and make meaning of new content, moving students from dependence to independence through the gradual release of responsibility. Synthesis fills the remaining 20% of class time with a check for understanding and assessment of the day’s objective or learning target, as well as student reflection on their new learning.

**Building Background** expands students’ knowledge or activates their schema to prepare them for the day’s learning. Teachers should ask, ‘What information do students need to access today’s content? What knowledge does the lesson assume students bring with them?’ Pre-teaching concepts or key vocabulary, providing anticipatory guides, using KWL charts, or showing pictures or videos are all effective ways of activating schema and building background.

**Ensuring Student Understanding** encompasses both comprehensible communication and checking student comprehension and recall. Struggling or disengaged students are often faced with two demands in the classroom: accessing new material and mastering the nuances of academic language. Communicating instructions and new concepts in multiple modalities (orally, visually, in print), anticipating and preparing for student misunderstandings, and frequently checking in with students (conferring, dip-sticking, on-the-spot assessment) help to maximize student opportunities to engage with new material.

**Facilitating Student Interactions** is designing activities each day for students to hear themselves and one another talk about content, skills, and strategies. Think-pair-share, Socratic seminar, and role-plays are activities that move students beyond the typical talk of group work and class discussion. Teachers should make time to confer individually with students, not only to monitor progress and plan next steps, but also to encourage students to deepen their thinking.

**Undertaking Participatory Action-Research** is a commitment to improving one’s practice and the instructional culture of the school. After a lesson, teachers reflect (either alone or collaboratively) on the success of the lesson, collect and analyze data, and develop new approaches to deepen student understanding.





### Learning Strategies

In the FEI model, what are typically referred to as ‘literacy strategies’ are known as learning strategies. Experience shows that the strategies have utility in helping students make meaning while engaged in tasks not traditionally associated with ‘literacy.’ For instance, in mathematics, students can “make connections” to help themselves solve challenging problems by identifying similar, simpler problems to serve as models, or real-life situations in which to apply learned strategies. They also use determining importance as they decide where to begin while solving multi-step problems.

**Connecting**, which is an effective technique for building background, is the skill of linking what one already knows (schema or background knowledge) to new knowledge.

**Determining Importance** allows students to make sense of information by sorting details into the essential and non-essential. This allows them to move skillfully between the micro and macro as they explore complex texts and problems.

**Inferring** is using what one already knows to ‘read between the lines’ and identify implicit meanings. Teaching students to infer prepares them to defend their claims by presenting evidence, elevating them beyond mere assumption.

**Predicting**, closely related to inferring, is using what one already knows to hypothesize about what will come next. This skill allows students to examine past and current realities to envision the future.

**Questioning** is engaging the text or problem in a dialogue, working collaboratively to make meaning. Students often associate questioning with clarifying confusion; however, through practice they can come to see questioning as the means to explore new ideas and deepen understanding.

**Synthesizing** is the ability to put it all together, moving from being grounded in the text to applying and integrating new learning into their existing schema. Synthesis is not a discrete step, but the culmination of a process that typically encompasses all of the strategies.

**Visualizing** is creating a mental image from a text to support or extend understanding. We often associate visualizing with a specific learning style; however, teaching visualization as a strategy makes it a tool that can be learned and used by anyone to explore ideas, rather than the exclusive domain of those to whom it comes naturally.

### The Learning Strategies, Higher-Order Thinking, Schema, and Meta-Cognition

In 1956, Benjamin Bloom and his team of colleagues, created their Taxonomy of Educational Objectives, providing educators with a means of classifying educational objectives from the least cognitively demanding to most cognitively demanding. Typically envisioned as a pyramid, the thinking described in the bottom three domains (Recall, Comprehend, Apply) is what Bloom described as ‘lower order.’ The top three domains (Analyze, Evaluate, and Create) require ‘higher-order thinking.’ Thinking processes associated with recall are less cognitively complex than those associated with comprehension; thinking processes associated with analysis are more cognitively complex than those associated with application;

and so on. The upper half of Bloom's Taxonomy--analyze, evaluate, and create—describe the higher-order thinking skills.

In *Knowing What Students Know: The Science and Design of Educational Assessment*, the National Research Council discusses the nature of subject-matter expertise. Calling upon decades of research in psychology and neuropsychology, the authors provide insight into the different ways experts and novices organize their knowledge. In the expert mind, knowledge is organized efficiently, facilitating effective retrieval and use of needed information. How do experts do this? Their minds bear three distinguishing characteristics: 1. facts and procedures are committed to long-term memory; 2. where they are organized using well-connected **schema**; 3. which allows experts to use long-term memory for problem-solving, rather than limited capacity working memory.

To help students develop the expert mind, teachers must be mindful of creating opportunities for students to develop the schema that experts employ. While it is undoubtedly true that experts have more knowledge than novices, what is powerful in this research is the revelation that content knowledge alone does not make experts; the deep underlying structures for organizing information is what sets experts apart.

A second quality that distinguishes the expert mind is **metacognition**, the ability to choose an appropriate problem-solving strategy for the task at hand, monitor the success of the chosen strategy, and adjust or abandon a strategy when it is not effective. Development of metacognitive awareness occurs organically as part of overall cognitive development; however, like the use of the strategies that metacognition manages, explicit instruction and feedback on metacognition can hasten their development and ultimately strengthen a student's metacognitive ability.

"Metacognition depends on two things: knowing one's mental capabilities and being able to step back from problem-solving activities to evaluate one's progress," writes the NRC. "Strong learners can explain which strategies they used to solve a problem and why, while less competent students monitor their own thinking sporadically and ineffectively ... Good problem solvers will try another strategy if one is not working, while poor problem solvers will hold to a strategy long after it has failed."

- The National Research Council, in *Knowing What Students Know*

Metacognition can be taught through strategy instruction that includes opportunities for students to reflect on their learning processes, which in turn allows them to expand the schemas available to them. Explicit metacognitive strategy instruction in isolation is of limited value. Strategy instruction alone works only if the intent is to equip students to perform tasks with low cognitive demand, such as memorization. However, when metacognitive strategy instruction is paired with content instruction and with rich tasks, students show gains across all levels of knowledge, from recall to deep understanding.<sup>34</sup>

The second essential aspect of metacognitive instruction is feedback. In much the same way that a teacher would ask a student to review their writing, then provide their own critical eye to the text, a teacher must lend their critical eye to a student's thinking as well. Students bring their own toolkit of

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<sup>34</sup> John Hattie's *Visible Learning* rates metacognitive strategies 13th out of the 138 influences on student achievement, making metacognitive strategies the 6th most influential contribution from teaching approaches. He calculates the effect size as  $d = 0.69$ , putting it well within his established zone of desired effects (0.4 to 1.2).

strategies to any task and those tools are of varying effectiveness. To extend the metaphor, effective metacognitive instruction is not just about adding more tools, but helping students to remove those less effective tools. Feedback on metacognition, then, assists students in developing new, more effective strategies and inhibiting their selection of the strategies that just do not work well. This is essential to ensure that strategy instruction ‘sticks’ and that students do not just fall back on their old strategies when given the opportunity to work independently.<sup>35</sup>

A lesson designed to develop students’ metacognitive abilities would include a healthy dose of content knowledge presented in a meaningful way, with modeling to support students’ emerging schema, explicit instruction in the learning strategies, and student reflection and teacher feedback on metacognition.

### A TOUR OF AN FEI LESSON

FEI lessons are organized into four core segments:

**Lesson Preparation:** Within the FEI, teachers begin their lesson planning by crafting a Learning Goal or Guiding Question, drawn from the curriculum, that clearly communicates to students that it is their ideas that are important to explore, and that over the course of the lesson they will use Learning Strategies to undertake activities that require higher-order thinking.

**Launch:** Often called a mini-lesson, the FEI’s Launch is an opportunity for teachers to model for students how **they** use the strategies to support their learning. Effective Launches provide students with a combination of new tools and key background knowledge. The most successful Launches do not focus on the transfer of knowledge from the teacher to students (as occurs during lectures, class read shared readings, or homework checks), rather, they use modeling and anticipation activities to “launch” students into the investigation.

**Investigation:** This portion of the lesson provides students with the opportunity to practice using the Learning Strategies to explore new content. The hallmark feature of the Investigation is its interactive nature: during this portion of the lesson students will work in groups or pairs, some might conduct research on a computer while others prepare for a presentation. The teacher might work with a small group to address a particular gap in skill or knowledge; or s/he could be found conferring with students about their learning. Frequently referred to as a “workshop” or “practice and application period,” the FEI’s Investigation period tasks students with using the Learning Strategies for inquiry, research, analysis and exploration.

**Synthesis:** The final portion of the lesson provides students with an opportunity to synthesize their learning with a formative assessment. The goal of the assessment is two-fold: first, to provide students and their teacher with information regarding student learning; and second, to allow students the opportunity to synthesize their learning. The lesson closes as students reflect on the Learning Strategies they used during the lesson, evaluating the effectiveness of the strategies they used.

The lesson plan outlined below provides a visual display of the FEI’s strategic scaffolding in action. The lesson is excerpted from a social studies course entitled “*Where do I fit in?*” and is part of a three-week unit on identity and race.<sup>36</sup> It is designed to pair effective teaching practices with the Learning Strategies,

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<sup>35</sup> Kuhn, 2000. <http://cdp.sagepub.com/content/9/5/178.abstract>

<sup>36</sup> This unit was created by The Center for Urban Education/reDesign, adapting some of the ideas from Facing History and Ourselves’ *An American Love Story Video Guide*

a shift that is essential for students if they are to learn to become independent learners of challenging academic material.<sup>37</sup>

### Key to Reading the Lesson Plan

The left-hand side of the page displays the lesson plan.

On the right-hand side, is a brief overview of key aspects of the FEI.

Embedded in the lesson plan are letters (brown, in parentheses) that indicate which aspect of the learning strategy is employed.

For example, in the section on Lesson Preparation, you will find (a) at the end of the first guiding question, and (b) at the end of the second one.

The reference for these letters can be found on the left-hand side of the page: they are examples of Higher-Order Thinking, specifically examples of Evaluation and Analysis.

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<sup>37</sup> Visit <http://vimeo.com/user5614122/videos> for a video description of the FEI by Antonia Rudenstein.

Lesson Preparation: Goals for Today's Lesson		
<b>Learning Goal/Guiding Question</b> What do we think of the idea that it is a “mixed-“blessing to be of “mixed”-race? (a) How can we figure out what the important ideas are in a text? (and who are the ideas important to: Us? The author? Some other audience?) (b)		
<b>Learning Strategy</b>  <u>Literacy Strategies:</u> “I can identify important themes in texts, and use text-based evidence to help me explore them.” (c)  <u>Metacognition:</u> “I can identify the strategies that I use to determine important ideas in texts.” (d)	<b>Resources (e)</b> <i>“Mixed Blessings,” I. Nwokoye</i>  <i>Topic-Detail-Response Handout</i> <ul style="list-style-type: none"> <li><i>Topic column:</i> a passage in the text students feel is interesting, compelling &amp; important.</li> <li><i>Detail column:</i> details in the text that support students’ belief that a topic is important.</li> <li><i>Response column:</i> students’ response to the topic and details.</li> </ul>	<b>Higher-Order Thinking (HOT)</b> Lesson Planning within the FEI begins with the articulation of a Learning Goal or Guiding Question that explores a ‘big idea’ through the use of analysis, evaluation, creation or synthesis skills. The big idea, which here supports authenticity by connecting to students’ experiences, then becomes the focus of the investigation. During the synthesis period, students then consolidate their thinking by articulating what they learned.
<b>Common Core Anchor Standards:</b>  <b>Key Ideas &amp; Details:</b> 1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text. 2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.		<b>Learning Strategies and Metacognition</b> In order to increase students’ capacity to engage with academic tasks, integrate high-impact Learning Strategies throughout, so that students have access to explicit modeling during the launch, opportunities for practice and application during the investigation, where the strategies become the tools of the investigation of academic content; time for reflection on how and what they learned.
<b>Concepts/Vocabulary to Build-Background</b> race, “mixed”-race, biracial (e)		
Lesson Launch: 20% of the Lesson		
Building Background/Activating Prior Knowledge		
<b>Teacher Models (d)</b> <ul style="list-style-type: none"> <li>Read the title and first page of “Mixed Blessings” aloud to the class, stopping at a portion of the text that strikes you as important. Explain the criteria you are using to determine something is important, such as, you have a strong reaction to it, it reminds you of other texts we have studied, it makes you wonder about things. Mark these on the <i>Topic-Detail-Response</i> handout. (c) (f)</li> <li>Demonstrate how to collect details from this text and others to elucidate the topics we note. (b) (e)</li> <li>Model how to formulate a response to the topic and details on the hand-out by describing the connections you made, what you personally think of these ideas, why you think they are important, etc. (a) (c) (d) (e) (f)</li> </ul>		<b>Building students’ academic background knowledge</b>  Within the FEI, background knowledge is defined as academic content and skills, as well as cultural capital.
		a) Evaluation b) Determining Importance Inference c) Metacognition d) Analysis e) Race and Identity f) Identifying what one thinks is important; Collaborating with peers; Sharing with the whole class.

Investigation of New Knowledge: 60% of the Lesson	
<p><b>Groups of Three:</b> Finish reading the text together, and highlight the passages that feel important, either as a group or individually. (b) (c) (f)</p> <p><b>Individually:</b> Complete the hand-out: identifying topics and details in the text that you find important, and then responding to them (b) (f)</p> <p><b>With a Partner:</b></p> <ul style="list-style-type: none"> <li>3 new thoughts, ideas and facts you learned while working on this activity? (e)</li> <li>Write new thoughts and ideas on the board at the same time. (f)</li> </ul>	
Synthesize New Learning: 20% of the Lesson	
Assessment of new learning:	<p><b>Individually &amp; Then Whole Class:</b></p> <ul style="list-style-type: none"> <li>What do we notice about the items each pair wrote on the board? What are the similarities? Differences? What is surprising? What can you infer about the similarities? (a) (b) (c) (e)</li> <li>Using your TDR charter to guide you, respond to the day's Guiding Questions.</li> </ul>
Reflection on new learning:	<ul style="list-style-type: none"> <li>Describe how you selected the excerpts you did (which Learning Strategies did you use)? (c)</li> <li>How many of your selections seemed to capture the “main” idea?” How do you know? (a) (c) (d)</li> <li>What do you think of the strategies you used to determine importance in this text: are they effective <i>for you</i> (they don't have to be used to identify the “main” idea, but rather can be used to help you feel connected to the text in some way)? W/Could you use them again? (b) (c) (d)</li> </ul>

**Student Choice & Voice:** The learner's right to own their own learning.

Throughout FEI Lessons, students have the opportunity to identify and explore the ideas that are interesting to them, using the Learning Strategies they believe are most useful, and deepening their own understanding of how they learn. In addition, students have daily opportunities to collaborate, sharing their growing expertise. In later lessons, students might identify their own texts, or pursue their own questions, concluding with the creation of products of their own design.

**Synthesis:** The two-fold process of demonstrating understanding of new material AND reflecting on the strategies used to gain understanding.

FEI Lessons check for understanding at multiple points during the Launch and the Investigation. During the Synthesis period, students are first asked to push their understanding into a new sphere, putting together ideas from the lesson in new ways. Then, students engage in the work that will help them become independent learners: assessing the quality and success of their learning efforts, and noting strategies that could be useful under other circumstances.

In the FEI lesson above, the Guiding Questions immediately establish a focus on analytic and evaluative thinking: students will be investigating ideas about race and identity—their own, the text's, and their peers' (an example of *analysis*); and then, articulating the ideas they find to be most compelling (*evaluation*). Though high school students usually have little academic experience engaging in this sort of higher-order thinking, the lesson does not back away from opening up this arena to them. At the same time, students are not asked to navigate it without extensive scaffolding: first with modeling (in the launch) and the 3-column “Topic-Detail-Response” graphic organizer (described in the Resource section, and completed during the Investigation), and later with both a *compare/contrast/infer* activity and a personal reflection on the text (Synthesis).

By explicitly making the connection between the Learning Strategies, independent learning and these activities students begin to see the Learning Strategies as powerful tools. Over time, students will assemble a set of tools that support them in undertaking work at each level of Bloom's Taxonomy.

## APPENDIX A: RESOURCES TO SUPPORT CURRICULUM WORK

As you make decisions about the curriculum—what you will buy, what you will create, and how you will know it is high quality—the resources below can be useful models of the evaluation process and models of effective curriculum materials.

### Sample Rubrics for Evaluating Curriculum

Schools are encouraged to develop their own tools for evaluating curricula as the process will encourage rich conversations about the what and why of education within its walls. The following tools are presented as samples to inspire and guide your own work.

Toolkit for Evaluating Alignment of Instructional and Assessment Materials to the Common Core State Standards is a collection of resources for evaluating curricula, lessons, and assessments for use with the CCSS:

<http://www.achieve.org/publications/toolkit-evaluating-alignment-instructional-and-assessment-materials-common-core-state>

The Quality Curriculum Evaluation Rubric is a one-page checklist-style rubric produced by the Maine Department of Education:

<http://maine.gov/doe/adulted/admin/curriculum/quality-rubric.pdf>

EngageNY offers a collection of ‘criterion-based rubrics and review processes to evaluate the quality of lessons and units intended to address the Common Core State Standards for Mathematics and ELA/Literacy’:

<https://www.engageny.org/resource/tri-state-quality-review-rubric-and-rating-process>

## Resources for Sample Curricula and Lesson Plans

The organizations are sources of high quality curriculum resources, including unit and lesson plans. As you begin the process of choosing and evaluating materials, these can be used as part of a mock curriculum review process to orient and calibrate your team and evaluation tools.

Poetry Out Loud

<http://www.poetryoutloud.org>

Common Sense Education

<https://www.commonsensemedia.org/educators>

Facing the Future

<https://www.facingthefuture.org>

The Civil War Trust

<http://www.civilwar.org/education/teachers/curriculum/>

Vex Robotics

<http://curriculum.vexrobotics.com/>

Code Academy



<http://www.codecademy.com>

Asia Society

<http://asiasociety.org/education/lesson-plans>

Facing History and Ourselves

<https://www.facinghistory.org/educator-resources>

National Association for Urban Debate Leagues

<http://urbandebate.org>

Perspectives for a Diverse America

<http://perspectives.tolerance.org>

iCivics

<https://www.icivics.org>

Intel

<https://educate.intel.com>

eGFI (Engineering—Go For It)

<http://www.egfi-k12.org>

Media Education Lab

<http://mediaeducationlab.com>

Everyday Democracy

<http://www.everyday-democracy.org/resources>

First Amendment Schools

<http://www.firstamendmentschools.org>

Educurious

<http://educurious.org>



## Overview: Assessment, Data, and Continuous Instruction

Creating a culture of continuous improvement in a school depends upon having a system collect and act upon data about student achievement. Data is collected through regular assessment of student learning, not just at the classroom level but also horizontally and vertically across departments and grades. While individual assessments provide a snapshot of student achievement at a moment in time, effective schools use systems of assessments to see the whole picture.

Systems of assessment can be distinguished from typical school uses of assessment and data by three factors: time, collaboration, and quality. As described in chapter one, a strong adult culture is committed to fostering the growth of community members and is organized around student achievement. To this end, adults in schools need to support each other in carving out **significant time** for analyzing the data produced by regular assessments. While some of this work can be done within individual classrooms, instructional leaders recognize that **collaboration** is a force multiplier, and use it to leverage the power of teams. Finally, systems of assessment are thoughtfully curated to ensure **high quality** assessments create powerful learning experiences for students and to provide all stakeholders with the data they need to draw accurate inferences about student achievement and program effectiveness.

A fourth, and most critical, defining characteristic of coherent systems of assessment is the use of an effective feedback cycle within and between grades and departments. Insights gained travel throughout the system, regardless of where they originate, allowing the organization to learn from its members and vice-versa. Insights then lead to actions, the outcomes of which are themselves measured and analyzed to feed further learning. No one works in isolation, with silos and firewalls preventing the free flow of information; instead, leadership supports permeability and adaptability, and encourages accountability

In 2002 the Assessment Reform Group of the Cambridge University School of Education laid out **ten research-based principles of assessment for learning**<sup>1</sup>. Effective school-wide and classroom practices of assessment are grounded in the belief that assessment:

- is part of effective planning
- focuses on how students learn
- is central to classroom practice
- is a key professional skill
- is sensitive and constructive
- fosters motivation
- promotes understanding of goals and criteria
- helps learners to know how to improve
- develops the capacity for self-assessment
- recognizes all educational achievement

not merely for outcomes but for learning from those outcomes.

The figure below outlines a system of assessment and data analysis within a school, illustrating the purposes of both at each level of organization within a school. Instructional leaders, teams, and individual teachers have different needs, from evaluating the effectiveness of the curriculum at preparing graduates to succeed at the post-secondary level, to determining if a specific instructional activity yields the intended results. Therefore, educators at each level use different assessments to collect the data they need.

In the decade since the Assessment Reform Group released its report, and despite dozens of books on the subject by such well-known experts as Robert Marzano, Doug Reeves, James Popham, and the team of Douglas Fisher and Nancy Frey, little has changed in the way schools use assessment. Assessment

practice is informed by tradition—the way teachers themselves experienced assessment as students—and the growth of high stakes standardized assessments, rather than by research into best practice. But these present poor models, as they posit assessment as separate from learning, rather than essential to learning, and are better suited to ranking and sorting students than assuring that all are achieving high standards.

The ARG's core principles are powerful because they shift the paradigm of teaching and learning away from 'teacher teaches, student learns, teacher assesses, everyone moves on' to a robust cycle of teaching, assessing, adjusting, and identifying clear next steps. Their vision is assessment as empowering by providing teachers and students alike a tool for learning—one that is more like an inclined plane that moves students toward mastery than a hammer that drops on those who cannot yet perform to standards.

The pyramid shape of the system of assessment (see page 4) has the classroom at its base, the foundational level, since this is where teaching and learning happen. Accordingly, this is also where the most frequent assessment occurs. Teachers use formative assessments on a daily basis to identify next steps for students and to make adjustments to plans and lessons. Data from formative and summative assessment fuels their reflective practice, as they seek to maximize student achievement by identifying those lessons and activities that yield the best results.

Next is the program level, where teams of teachers and educational leaders--gathered in PLC's, Data Teams, Critical Friends Groups, or other collegial structures--use common assessments and the data they provide to make decisions about instructional improvement. These teams meet regularly, often formally but sometimes informally, to troubleshoot and bring their collective knowledge to bear on difficulties individual teachers or students may be facing. They share the data-identified best practices from their individual classrooms with one another and help the instructional leadership team to identify areas of concern in the school's curriculum and programs.

Finally, principals and other school leaders charged with making decisions about programs and resource allocation are atop the pyramid, using assessment and data as part of school accountability frameworks. They act as quality assurance, making certain that the schools and its students 'measure up' and are able to compete with graduates from other schools. The school's leaders also are responsible for creating and sustaining the machinery of continuous improvement, ensuring that resources, such as time and training, are devoted to assessment development and data analysis, and rewarding those who collaborate, grow, and adapt.

The next two chapters explore each of these levels: Chapter three will set forth a vision for teacher work with assessments and data, beginning with the individual efforts of classroom teachers and their students, then moving to collaborative groups of teachers (and instructional leaders) at the program level. Chapter 4 will then describe how instructional leaders can create the structures and provide the support that allows data collection and analysis to inform all aspects of the academic program.



## School Level

Assessments happen infrequently (once or twice per year)

Instructional leaders use the results to ask,

**"Are enough students meeting required standards?"**

Aggregated data from school wide assessments reveal the comparative quality of the school and its students. Results are used to for resource allocation, accountability, and program evaluation.

## Program Level

Assessments happen periodically but frequently (every few weeks)

Teams of teachers and instructional leaders use data from common summative assessments to determine how well students are achieving the school's curriculum by asking,

**"Which standards are our students mastering or not mastering?"**

Aggregated results are used to focus improvement efforts.

## Classroom Level

Assessments happen on a daily basis

Teachers and students use the data from formative and summative assessments to examine how well students are mastering lesson learning targets and unit objectives and to ask,

**"What comes next for learning?"**

Individual results are used to adjust instruction, provide feedback, set goals, and gauge progress toward meeting standards.

Adapted from Stiggins, R. (2008) "Assessment Manifesto: A Call for the Development of Balanced Assessment Systems."

## CHAPTER 3: Using Assessment Data in the Classroom

As schools develop assessment systems designed to assess for student learning (see sidebar in the Introduction to Part 2, above), it is important to recognize that teachers are the engine that drives the process. In their daily work with students, they take on the responsibility of (1) crafting and/or implementing summative assessments that provide students with meaningful opportunities to demonstrate their mastery of college-quality academic skills; (2) instituting a daily practice of formative assessments that support checking and tracking student understanding of new concepts and skills; (3) using data from both summative and formative assessments to inform their daily pedagogy and curriculum in an effective feedback cycle; and (4) collaborating to deepen their own and their colleague's understanding of assessment and its uses.

(1) Summative assessments occur at the point at which teachers and students feel students are ready to demonstrate their mastery of skills and content. Most often, summative assessments are associated with a calendar date (the end of a unit, term, or course), rather than student preparedness. In creating a system to assess student learning, it is far more productive to align summative assessments with the quality of students' learning. In crafting summative assessments, the goal is ensure that they provide rich data on students' mastery of objectives, standards, or competencies that are tightly aligned with the skills needed for success in college. In college, students will most frequently be asked to undertake argumentative writing tasks, lab reports and other informative writing, mathematical models, and presentations. Regardless of whether summative assessments are developed individually or collaboratively, they should be developed before instruction takes place, not after instruction. As discussed in the previous chapter, creating the assessment in advance ensures that students are tested on the *intended* curriculum, rather than the *implemented* curriculum.

(2) If summative assessments are *assessments of learning*, formative assessments are *assessments for learning*. Formative assessments are the daily opportunities for teachers—and students themselves—to uncover what students are and are not learning. Complementing the daily lesson plan, formative assessments measure how well students have met the day's learning target and can be formal or informal. Conferences, questioning, and exit tickets are just some of the techniques teachers can employ as formative assessment. Information gathered from formative assessments allows teachers to make adjustments on the fly and plan future lessons.

Formative assessment is also the foundation for the feedback cycle, which, of all school-related factors, has the greatest affect on student achievement. Teachers provide students information about their learning relative to goals and cues about next steps they can take to progress and close the gaps. Feedback empowers students to take greater control over their own learning and helps them to develop the metacognitive skills to effectively self-assess and self-correct their performance.

(3) The feedback cycle uses information from formative and summative assessments to identify next steps for learning. Assessment provides data about where students are relative to standards, which teachers and students use to develop next steps to close the gap between where the student is and

where the student needs to be. This distinguishes feedback from evaluation and mere advice<sup>38</sup>; feedback is actionable, specific to the student and the standard, and on-going.

(4) Any or all of the work teachers do individually can be undertaken collaboratively as well. Developing and scoring assessments, writing and revision lesson plans, and responding to student progress can be collegial processes.

### Summative Assessments Define the Ceiling for Student Achievement

As Richard Elmore of the Harvard Graduate School of education observed, “task predicts performance.” Put simply, students who are fed a regular diet of worksheets, simple problems, or lectures can eventually become proficient at worksheets, simple problems, and attending to lectures, but they do not develop the skills necessary to be college and career ready. Schools that rely on less demanding assessments (such as objective tests with multiple choice, true/false, and matching questions) often find that their students struggle to do well on standardized tests. Similarly, test-prep and ‘teaching to the test’ may produce short-term gains, but ultimately fail to produce strong and lasting improvement in other measures of student achievement. By focusing on how to do well on undemanding tasks, they limit students’ growth to the ceiling established by the test.

Conversely, schools that regularly use rich assessments find that their students perform at high levels on state exams and other standardized assessments. Why? Because the work students do as part of their everyday experience at school is at a much higher level than the on-demand performances in those large-scale assessments. Because assessments not only measure student performance, but also place a cap on it, students will never demonstrate knowledge, skills, and thinking any deeper than the assessment—and the tasks leading up to the assessment—can support. Therefore, the work that students complete on a daily basis should be purposefully designed to build toward cognitively-complex assessments. So though we use the word ‘rigorous’ to describe curriculum itself, complexity of course content and the planned lessons are only two pieces of the whole. The cognitive complexity of assessments is the key to accurately measuring the rigor of students’ academic preparation.

One approach to developing rigorous assessments is to work backward from the types of tasks students will complete as freshmen in college. In 2012, Michigan Future Schools scanned the syllabi from a broad range of college freshman courses, from some of the most competitive colleges, and from some of the most open institutions. The scan revealed that across the country, college freshman are assigned a remarkably similar set of assignments. The figure below shows the types of task and frequency of their appearance in the workload of a typical college freshman.

Assessment Task	Typical College Load
Test/Exam	12
Argumentative Essay	12
Research Paper	4
Literary Analysis Essay	6

<sup>38</sup> See Wiggan’s excellent summary of the differences among feedback, advice, and evaluation and grades:  
<http://www.ascd.org/publications/educational-leadership/sept12/vol70/num01/Seven-Keys-to-Effective-Feedback.aspx>

Lab Report	15
Mathematical Problem Sets	30
Presentation	4

Teachers can use the list as a place to begin when developing both classroom-based and collaborative summative assessments that closely parallel the work of college students and professionals in the workplace. These assessments can be developed into a set of rigorous **performance tasks**, which are multistep, college-preparatory assignments that build student knowledge and skills by creating opportunities for frequent practice, feedback, and revision. Performance tasks are both time-flexible and mastery-oriented, requiring students demonstrate competence to move on when ready.

The chart below illustrates how performance tasks can be broken down into their component skills to establish a possible path for scaffolding. These skills become formative tasks, the stepping stones for completing the performance task. For instance, some students may arrive without the skills necessary to choose an appropriate topic for a position paper and may need to complete that formative task, which includes lessons and activities related to that skill. Others may already possess that skill and can spend time refining their research skills.

The chart also shows how different performance tasks require similar formative tasks to complete. For example, to successfully complete either the position paper or the infographic, students need to be able to choose a topic, determine purpose and audience, and research an issue, among other skills. By focusing summative assessment on a limited selection of performance tasks, students develop their skills and demonstrate mastery of the formative tasks through multiple opportunities within different performance tasks or repeated instances of the same performance.

Speech	Position Paper	Lab Report	Infographic	Socratic Seminar
Explore speeches	Explore the Genre of Persuasive Writing	Explore the Form & Purpose of Lab Reports Learn how to present Numerical Data Work with Numerical Data in Excel	Explore the Form & Purpose of Infographics Learn how to present Numerical Data Work with Numerical Data in Excel	Explore the Socratic Seminar Form & Purpose
Choose a Topic	Choose a Topic	Make a hypothesis	Choose a Topic	
Determine Audience and Purpose	Determine Audience and Purpose		Determine Audience and Purpose	
Research	Research	Create a Research Question Undertake the experiment Collect Data	Research	Research Read closely Analyze Claims Prepare questions
Choose a Position	Choose a Position		Choose a Position	
Choose supporting facts, details, and evidence	Choose supporting facts, details, and evidence	Analyze Numerical Data Compare Results to Hypothesis	Choose supporting facts, details, and evidence	Choose supporting facts, details, and evidence
Draft	Draft	Draft	Draft	
Cite Sources	Cite Sources	Cite Resources	Cite Resources	Cite Sources
Give and Receive feedback	Give and Receive Feedback	Give and Receive feedback	Give and Receive Feedback	Give and Receive Feedback
Revise and Edit	Revise and Edit	Revise and Edit	Revise and Edit	

Beyond the individual classroom, grade-level teams can use the performance tasks and their component formative tasks to provide students with opportunities to practice and sharpen their skills over time and across subject areas. If the Social Studies teacher takes students through the steps to write a position paper in September, the Biology teacher will know which of her students have mastered determining purpose and which need more help choosing supporting facts and details when students create infographics for her class in October.

Creating specific assessments for a given unit of study from the performance tasks begins with determining which standards are going to be assessed. Standards may need to be unwrapped or unpacked first to identify specific learning targets or lesson objectives the assessment will measure. Teachers will begin to recognize that some performance tasks are better matches for standards than others. For example creating an infographic may be an appropriate way for students to demonstrate

mastery of the standard “Use a model to illustrate the role of cellular division (mitosis) in complex organisms” (HS-LS1-4), while analyzing how a character develops over the course of a novel (CCSS.ELA-LITERACY.RL.9-10.3) may be better suited to a persuasive essay.

### Steps for Creating Common Assessments

1. Determine what standards you will assess
2. Unpack the standards to define what students will need to know and be able to do to meet that standard
3. Decide what form of assessment and types of responses best allow students to demonstrate mastery of the standard
4. Create the assessment prompt or questions using a tool such as Bloom’s Taxonomy, Webb’s Depth

Once the assessment format has been chosen, the teacher develops the questions, prompts, or tasks that students will respond to. As important as the ‘task’, or format of the assessment, is the ‘ask’, or what content and questions students are being asked to engage with to complete the assessment. The quality of work students will produce lies in the difference between a rigorous ask and one without rigor. Recalling and summarizing the events in a single novel, while often referred to as an ‘essay’ is a very different task than analyzing how two different authors approach a similar theme. The former requires little complex thinking while the latter demands it. Bloom’s Taxonomy, Webb’s Depth of Knowledge, and Hess’s Cognitive Rigor Matrix (which combines Bloom and Webb) are powerful tools for planning assessments that require students to engage with course content in cognitively complex ways. Each presents a means of examining the type and depth of thinking students must use to successfully complete an assessment task.

Finally, the teacher develops a scoring guide or rubric to evaluate the work to identify specific areas where the student has fallen short of, met, or exceeded the standard. Establishing and communicating the quality criteria and benchmarks for success is vital to ensuring that students have the opportunity to show what they know and can do. Rubrics, which should be aligned with the school’s established curriculum standards, communicate expectations for students, and the most effective rubrics do so with sufficient detail to allow students to evaluate their own performance. Typical rubrics may include criteria for evaluating multiple facets of a student’s performance such as:

- **Process**—did the student follow the steps for completing the assessment (such as conducting research, drafting, seeking feedback)
- **Form**—does the product follow the established conventions for the task?
- **Content**—is the information contained in the product accurate?
- **Growth**—did the student develop skills and knowledge as a result of completing the assessment task?
- **Impact**—does the work achieve its intended purpose and meet the needs of its intended audience?<sup>39</sup>

The figure below shows an example of select quality criteria from an informational writing rubric based on the Common Core State Standards.

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<sup>39</sup> Adapted from Hess, K (1995) as cited in Quality Performance-Based Assessment book



	<b>Emerging</b>	<b>Near Proficient</b>	<b>Proficient</b>	<b>Advanced</b>
<b>Expression of Main Idea (W.2a)</b>	Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.	Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.	Introduce a topic; organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.	Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
<b>Supporting Details (W.2b)</b>	Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples.	Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.	Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.	Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.

The simplest way to develop rubrics is to adapt existing rubrics, which can frequently be found posted in conjunction with released items from state assessments. Teacher-created rubrics can also be found at a variety of websites, though it is important to be aware the quality of the rubrics can vary widely.

Teams wishing to develop their own rubrics can use will find protocols and tools below.

### Gathering Data Using Formative Assessment

Having in place clearly defined standards, competencies, or other descriptions of the skills and content students must master--as well as rubrics that describe proficient work--is a necessary precursor to using formative assessment effectively, as is a clear sense of the scaffolding and learning progression students will ascend as they develop their emerging mastery. The first presents a destination that teacher and student alike can visualize; the second describes the path they will traverse. Using formative assessment provides the data necessary to keep teacher and student on the path and focused on the intended destination.

Formative assessment can precede instruction through the use of pretests, which can be formal or informal, to gather data for planning instruction and making adjustments for the class, groups, and individuals. Many schools use computer-based adaptive testing such as Northwest Educational Association's Measures of Academic Progress (MAP), Renaissance Learning's STAR, Let's Go Learn's Diagnostic On-line Reading Assessment (DORA), or CollegeBoard's Accuplacer to assess students at the start of a school year or to determine readiness and placement for specific courses. These tests yield important information about student's academic preparation, and can be combined with other informal tools, such as surveys, writing samples, and teacher-developed pre-assessments to measure student progress toward specific standards or curricular outcomes. Using formal and informal assessments in tandem can provide results that are immediately and clearly actionable.

If the teacher has a well-defined learning progression, once the pretest has been administered the teacher can analyze the data to establish precisely where each student stands relative to the standard to be mastered and the performance task students will use to demonstrate mastery. This, in turn, allows the teacher to identify what instruction or formative task comes next for each student. The teacher can revise planned instruction to ensure that it addresses the needs of students, preparing opportunities for additional practice or instruction, or eliminating some planned instruction if students have already progressed beyond what was anticipated. Pretest results and instructional goals can be shared with students as the first step for them to take responsibility for their own learning.

As students progress through lessons, daily formative assessment provides data to inform teacher reflection. While an in-depth review of every lesson may not be possible, each lesson should be followed by at least one simple question: "Did students learn what I intended?" If the answer is yes, then the teacher should note what elements of the lessons accelerated student learning. If the answer is no, then similarly the teacher should note where misunderstandings occurred and plan to address them in the next lesson.

In *Visible Learning* (2008), John Hattie's synthesis of over 800 meta-analyses of research on student achievement, Hattie reports that the greatest impact on learning is student's own expectations for themselves. Students, he found, are remarkably accurate self-evaluators as they perform to the level they themselves predict they will attain.

Teachers can use Hattie's findings to great effect by asking students to self-evaluate at the start of a unit as a pre-assessment. Surveys, KWL charts, interviews, and other instruments can be used to gauge students' confidence with the background skills and knowledge they will need to successfully access new material. Similarly, as learning progresses, teachers can ask students to make predictions about their performance, then challenge them to exceed their expected outcomes and help them develop a plan to successfully do so. When students become more confident in their ability to use their self-assessment to reflect on their learning and set learning goals, teachers should allow students to take more responsibility and ownership of the process.

### Acting on Data in the Classroom: The Feedback Cycle

The needs of students must also be considered when developing an assessment system. Students use information gleaned from assessments to make judgments--or confirm assumptions--about their own ability and about the value of their teachers, classes, and school. Poorly designed assessments and

systems can leave students frustrated and hopeless, such as when students who have below-grade-level reading ability are given pencil-and-paper state assessments that include grade-level and above-grade-level passages or when a teacher's quiz leaves students without a clear sense of what to do next to meet instructional objectives. Disengaged students are unlikely to be reengaged by assessment that does not provide them with the information they need to take control of their own learning.

Thoughtful use of formative assessment is built on the belief that learners develop skills over time and competence emerges gradually, not spontaneously. While completing the performance tasks described above, students progress through a common set of learning targets, but they do so at different paces. The mastery-based design of the tasks hinges on bringing the feedback cycle into the classroom, presenting learners with multiple opportunities for practice, allowing them to revise work as their skills develop, and providing frequent actionable feedback.

We tend to think of students as passive participants in assessment rather than engaged users of the information that assessments can produce. What we should be asking is, How can students use assessment to take responsibility for and improve their own learning?

--Chappuis and Stiggins in "Classroom Assessment for Learning"

As both skill and content instruction progresses, the teacher should regularly meet with students to clarify instructional objectives, to respond to student work, and to develop an individualized student-centered plan for learning. Fisher and Frey (2008) call this *feed-up*, *feedback*, and *feed-forward* and it answers three questions for students:

1. Where am I going?
2. How am I doing?
3. What comes next?<sup>40</sup>

**Feed-up**, which answers the first question, communicates to students what they are expected to know and be able to do as a result of instruction. Rubrics, while a powerful tool for communicating expectations for student work, should be used in conjunction with exemplars, models, anchor papers, and other representations of mastery. Whatever their form, models can be unpacked and examined for fine detail and for overall effect. Teachers can annotate models with the entire class as part of a mini-lesson, or conference with groups or individual students to help them identify specific aspects of the model that will help them meet their learning goals.

**Feedback** is different from praise, which is non-specific approval; feedback is descriptive and specific, showing students where they are relative to the objective or standard. Effective feedback is not only essential for students to develop mastery, but to learn how to self-assesses and monitor their own progress. Feedback works best when it is clearly connected to a student's needs, so small group or individual conference is powerful way to deliver feedback. Individual conferences are also an opportunity for teachers to model the metacognitive and reflective skills students need to be independent learners.

**Feed-forward** is the process of formulating a plan to advance learning. The teacher connects the places the student fell short of the standard to specific next steps, both for the student and the teacher. Both teacher and student should leave the conference with a clear understanding of what will happen next.

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<sup>40</sup> Fisher and Frey, (2011) The Formative Assessment Action Plan



The final step in effective use of formative assessment is to connect students to the resources they need to move their learning forward. Additional models of mastery, peer tutors, on-line instruction (such as Kahn Academy), are just some of the tools students can access to help them to meet objectives when they need additional opportunities to learn or are progressing more slowly than their peers. Continuous and rigorous use of formative assessment ensures that students who need intervention and remediation receive it in a timely fashion and avoid falling behind and becoming disengaged.

The feedback cycle, incorporating all facets, should be iterative, presenting students multiple opportunities to practice, receive feedback, and revise. As they see their own progress toward mastery, students develop a growth mindset, coming to recognize that success in school is a result of effort rather than innate ability.

Delivering each student what he or she needs in a timely fashion can be difficult to manage. Student conferences can be time consuming and it is easy to lose track of information gleaned from them. However, they are a powerful tool for improving student achievement, so teachers should make them a part of their regular classroom practice. Teachers should make it a priority to use some class time each day to confer with students, establish a calendar of ‘appointments’ for doing so, and develop procedures and tools to facilitate conferences.

Below is a model form for tracking student progress toward mastery of specific learning targets. Designed for data collection during teacher-student conferences, it can also be used with a variety of different assessments. The form provides places for teachers to record several important pieces of information:

- The **skill** targeted by the lesson arc
- The **scaffolds** the teacher provided to allow students to move toward greater independence
- Clear descriptions of the stages students will go through as they are **on-target** in their progress toward mastery, achieve **mastery** of the skill, or have **exceeded** mastery by doing beyond the standards.
- **Evidence** includes both the demonstration of the skill or content knowledge, as well as a student’s meta-cognitive awareness.
- **Misconceptions** are the places where a student falls short in their understanding of the skill or their own learning process.
- Finally, instructional supports are the next steps for both teacher and student, including future lessons (class, group, or individual), additional scaffolding,

Casco Bay High School requires all freshmen to give a presentation before an audience of community members. In the spring of 2014, students were preparing presentations on fisheries management, which would be presented to an audience of community members, including representatives of different stakeholder-groups such as local fishermen, environmentalists, and civic leaders.

Walking through the building we saw students practicing everywhere. Students paired off to read through their presentation one more time to one another; some read their remarks to classrooms of peers to receive feedback to make final tweaks; others presented in front of teachers as a final opportunity to prove they were ready to present. The presentation in the Civic Arena, then, was not an opportunity to ‘make it or break it.’ Each student who was to present—every member of the freshman class, approximately 90 students—had already proven that they had mastered the standards, that they could stand before their audience and sound both knowledgeable and eloquent when speaking about fisheries management. It was not an opportunity to fail, but to demonstrate to a larger audience what they and their teachers already knew: they were competent.



further opportunities for practice, and additional cycles of revision and feedback.

**Teacher:****Class:****Skill:****Scaffolds Offered:**

On-Target	Mastery	Exceeded

Date & Student	Assessment (Circle One)	Evidence of Skill What can they do? Can they explain how they do it?	Misconceptions Can they ask questions? Can they identify their own next steps?	Instructional Supports Teacher: future lesson Student: next steps/revisions
	Conference Student Work Assessment Observation			
	Conference Student Work Assessment Observation			
	Conference Student Work Assessment Observation			
	Conference Student Work Assessment Observation			

**Teacher:** T. Jones**Class:** Common Core ELA 9**Skill:** Recognizing author's craft**Scaffolds Offered:** Teacher Model/Discussion/Graphic Organizer

On-Target	Mastery	Exceeded
<ul style="list-style-type: none"> <li>Summarizes story.</li> <li>Can identify suspenseful parts of the story, but doesn't connect them to craft.</li> <li>Can identify how authors generally create suspense.</li> </ul>	<ul style="list-style-type: none"> <li>Identifies specific passages that make the story suspenseful.</li> <li>Explains HOW specific passages that make the story suspenseful.</li> </ul>	<ul style="list-style-type: none"> <li>Explains the suspenseful elements in detail with formal tone.</li> <li>Selects STRONGEST passages that create suspense.</li> <li>Identifies which specific WORDS/PHRASES create suspense.</li> </ul>

Date & Student	Assessment (Circle One)	Evidence of Skill What can they do? Can they explain how they do it?	Misconceptions Can they ask questions? Can they identify their own next steps?	Instructional Supports Teacher: future lesson Student: next steps/revisions
9/15 Sam I.	<b>Conference</b> Student Work Assessment Observation	Identified that the story was 'creepy'. Was able to identify some evidence from the text to support her analysis ('the way it's described'). Couldn't quite explain how she knew—"I just know".	Sam equates suspense with horror movies—rather than rising tension. Has difficulty identifying suspense in other genres.	S: think about other books/movies that have made her feel tense but weren't 'scary'
9/15 Isaiah R.	Conference <b>Student Work</b> Assessment Observation	First draft of essay. Has identified examples of suspense in the story.	Doesn't have direct quotes from the story—just summaries. Details aren't explicitly connected to the thesis/theme	T: work through the model essay w/Isaiah to show how to use direct quotations and tie them to the thesis  S: Review notes on "MDG" to find quotes to include.
9/15 Maria C.	<b>Conference</b> Student Work Assessment Observation	Had a completed plot map of the story "MDG" to use for her map. Began her list of specific quotes that create suspense.	Asked how many quotes she needed. I asked her what she thought was enough. She said she would try to have one for each location.	S: Continue to find quotations from the story.

Keeping these records provides the valuable data a teacher needs to make instructional adjustments. The conference form allows a teacher to notice patterns, both for individual students (who may need multiple lessons on a single concept or skills) and for groups of students (who may all need the same lesson to be repeated).

### **Assessment, Data, and Teacher Collaboration**

Teachers do not have to undertake this the work of planning, teaching, assessing, and responding in isolation. At the program level of the assessment pyramid, teams of teachers collaborate to develop common assessments that are administered periodically but frequently, such as at the outset and end of a unit of study. Implementing a system of common assessments is a natural extension of the collegial work done to identify the standards and content that comprises the school's curriculum. By establishing the acceptable evidence of student achievement across classrooms and teachers, common assessments build the culture of collaborative accountability for high standards and ensure that all students are receiving and achieving the school's guaranteed and viable curriculum.

Common formative and summative assessments can be developed using the same process for developing summative assessments described above. After developing common assessments, grade-level and content-area teams should collaborate throughout the year to analyze the data collected with formative assessments to diagnose learning difficulties, plan or modify instruction, and set goals for students, teachers, and teams. Data from common summative assessments should be used as the basis for the collegial examination of student work. There are many protocols for this work, but regardless of which the team uses, it should focus on the following questions:

- Are our students meeting college-readiness standards?
- What inferences can we draw about why students performed the way they did?
- What interventions are necessary for students who are not yet proficient?
- How might we challenge students who surpass standards?
- Which instructional strategies produced the greatest results on specific standards?
- What changes or adjustments must we make to the curriculum, instruction, or the tasks?

### **Resources**

An infographic showing how one teacher uses data over the course of a school year:

<http://dataqualitycampaign.org/resource/infographic-ms-bullens-data-rich-year/>

A tool for creating rubrics

<http://rubistar.4teachers.org/index.php>

A brief guide for writing and calibrating rubrics

[http://assessment.aa.ufl.edu/Data/Sites/22/media/slo/writing\\_effective\\_rubrics\\_guide\\_v2.pdf](http://assessment.aa.ufl.edu/Data/Sites/22/media/slo/writing_effective_rubrics_guide_v2.pdf)

Sample protocols for developing rubrics

[http://assessment.uconn.edu/docs/How\\_to\\_Create\\_Rubrics.pdf](http://assessment.uconn.edu/docs/How_to_Create_Rubrics.pdf)

<http://pareonline.net/getvn.asp?v=7&n=25>



## DEVELOPING A STRONG ACADEMIC PROGRAM

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Karin Hess explains how Bloom, Webb, and her Cognitive Rigor Matrix apply to when developing classroom assessments.

<http://vimeo.com/21111138>

### CHAPTER 4: Leading Assessment and Data Work

In their survey of the available research on the importance of leadership to school improvement, the Wallace Foundation concluded “that most school variables, considered separately, have at most small effects on learning. The real payoff comes when individual variables combine to reach critical mass. Creating the conditions under which that can occur is the job of the principal.”<sup>41</sup> Within any effective organization individuals must first do the jobs that they only they can do and whether the job of instructional leadership falls to an individual or a team, the bottom line is the same: someone needs to take responsibility for establishing the necessary preconditions for student success. Once that foundation has been built, instructional leaders then work to ensure the continued smooth operation of those systems—while also attending to those jobs that their perspective and authority make them uniquely responsible for completing.

When it comes to assessment and data, the instructional leadership team has two chief responsibilities: 1. Creating and maintaining a culture and structures—the preconditions for success—that will enable and support the analysis of data at all levels within the school. And 2. Analyzing and acting on school-wide data—which comes with the big-picture view leaders possess. So, while data analysis is the on-going work of the instructional leadership team, before analysis can begin the structures must be in place.

Asking teachers to use a robust system of summative and formative assessments, to provide frequent feedback to students through conferences, and to adjust and individualize instruction on a daily basis is a radical departure from the typical expectations for teachers. While “guide on the side, not sage on the stage” has been written about often enough to become cliché, teachers’ own experiences as students are a powerful force for shaping their expectations for what a teacher does in the classroom. Unfortunately, few educators have a mental or experienced model of the practices described in the previous chapter.

Wise instructional leaders will recognize that this is challenging work, requiring a set of skills and tools teachers may not yet possess, and calls into question the deeply held beliefs of many educators. Curriculum, instruction, and assessment are all tightly linked in a school culture, forming the proverbial three-legged stool. If one of those legs is weak, the whole stool topples. Therefore, instructional leaders must work with teams of teachers to develop their assessment savvy by devoting a portion of collaborative time to creating and maintaining a collective understanding of, and commitment to, the assessment system.

The work begins by discussing what makes a well-designed, high-quality assessment and progresses to creating a map (such as the one presented below) for using rigorous assessments school-wide, at the team/department level, and in the individual classroom. Building on this foundation of shared knowledge, teams can then be given time to develop common, standards-based assessments and rubrics, examine student work, and discuss how to adjust instruction to respond to what the results tell them. This last phase of the work is the most important, since if the school intends to ensure that all students are mastering the curriculum, the assessments, rubrics, and other tools used to measure mastery should be common across classes. While individual teachers have a vital role in assessment as the first-line evaluator, feedback-giver, and deliverer of instruction, to effectively leverage those individual efforts to yield consistently high student achievement, the work must take place in a school-wide system designed

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<sup>41</sup> The Wallace Foundation (2011), *The School Principal as Leader: Guiding Schools to Better Teaching and Learning*

to support those efforts. Teacher teams are the keystone of the culture of continuous improvement and the foundation for student achievement, as they have the authority and ability to rapidly respond to what the data reveals, and supporting their work is vital to guaranteeing rigor in students' academic preparation.

Scale of assessment	Frequency of Assessment	Examples of assessment	Development and scoring of assessment	Feedback from assessment	Use of assessment	Target of assessment	User of assessment
School-Wide Assessments	Once or twice per year	ACT, SAT, state assessment, NWEA MAP, DORA	Externally developed and scored	Feedback to students is infrequent; may be diagnostic	Set school-wide goals, evaluate programs, place or diagnose students	National or state benchmarks	Leadership teams, instructional leaders
Team-Based Assessments	Periodic (at end of units, quarters, or semesters)	Summative assessments: Performance Tasks, Semester/Final Exams, Exhibitions	Collaboratively developed and scored	Feedback to students is periodic	Revise and plan instruction, track student progress, set group learning goals	School standards	Instructional leaders, subject/grade-level teams
Classroom-Based Assessments	Continuous	Summative Assessments (described above) and Formative Assessments such as checks for understanding, conferences, and Quizzes	Collaboratively and individually developed and scored	Feedback to students is frequent	Set group and individual student learning goals	Unit objectives and lesson learning targets	Subject/grade-level Teams, individual teachers

The distinction between summative and formative assessment depends on what comes next: Summative assessments are not followed by further instruction, whereas formative assessments are followed by more instruction and opportunities for feedback and practice. In the chart above, the assessments can be placed on a continuum from purely summative to purely formative. For example, state-wide assessments are summative: results are not returned in a timely enough manner for teachers and students to take action, and there is no expectation that students will use the results to improve their knowledge and skills in preparation for a “retake.” Formative assessments are those that provide teachers and students with a real-time “snap-shot” of student mastery. The information can then be used by both to determine next steps on the learning journey.

Quite frankly, the word "rigorous" is somewhat of a misnomer since a course requiring a high concentration of intellectual effort can be presented in a relaxed manner with comparatively low standards for success. Put another way, calculus or laboratory chemistry, for example, can be taught in a very laid-back fashion, while an otherwise "ordinary" survey of U.S. history can require the search for, discovery, and cataloguing of original source material, readings in archival methods, and frequent examinations and project presentations with criterion-referenced grading standards.

Adelman, C. 2006. *The Toolbox Revisited: Paths to Degree Completion from High School Through College*. Washington, DC: U.S. Department of Education.

Committing to a culture of rich assessment includes the practical work of creating the structures to support team analysis and action. Establishing the teams a school needs in order to effectively use data comes down to two simple questions: *Who is going to do the work?* and *What work is going to be done?* When organizing teams, the 4 w's should be established as commitments: **Who** is on the team? **When** and **where** does the team meet? **What** is the team's goal? While the exact size, composition, and purpose of teams will depend on the organization and structure of the school, optimal team configurations include a data team and grade-level or content-area teams in addition to the instructional leadership team.

## Laying the Foundation by Surveying the Data

The Data team provides leadership and expertise within the school, and has responsibility for strategically collecting, analyzing, and disseminating data. Ideally comprised of administrators, a representative sample of teachers, and staff members who have strong leadership skills or experience with data analysis, the data team's first responsibility is to ensure the accuracy and completeness of the list of assessment data to be collected (revisiting it once or twice a year to ensure that it is up to date). They have on-going responsibility for communicating with the other teams in the school, providing them with direction, tools, and the data they need to complete their tasks. The data team can also work with other teams to clarify and address problems, and ensure collaborative accountability within and across other teams.

The first task of the data team is to take stock, since most schools are awash in a sea of data. What data is being collected? What is it meant to reveal? When is it collected and by whom? Which students are included? Where is the data stored? Who has access to it and who needs access to it? The simple tool below, with included examples, is useful in this process as it organizes the information about all the data sources in a single table and classifies it into three categories: demographic data, outcome data, and process data.

Data Source and Type	Who is included?	Who collects the data? How often? When?	Who analyses the data? What process is used?	How is the information currently used? How are results reported and to whom?
SAT (standardized test)	All high school juniors and some seniors are encouraged to take the test. (Currently approximately 85%)	Guidance counselors, department heads, administration Usually spring and fall, with some	Results are compiled and analyzed by the College Board  Guidance counselors examine percentage	Data used for instructional development and monitoring student progress over time. Results are reported

## DEVELOPING A STRONG ACADEMIC PROGRAM

	of juniors take the SAT at least once during their junior year.)	students taking over the summer	of students taking the exam, compare scores and transcripts, track scores and college attendance (Naviance)	in hard copy/electronic form to all parents and professionals involved with student. Results are used to monitor professional growth and development.
DORA (Diagnostic Online Reading Assessment, standardized test)	All special education students and students who receive remedial reading instruction	Literacy specialists, case managers  Fall and Spring	Literacy specialists, case managers use the reports generated by DORA.	Information is used to match students to the appropriate intervention and to measure effectiveness of interventions  Results are reported in hard copy/electronic form to all parents and professionals involved with student.
Common Algebra I Assessments (midterm and final exam)	All students enrolled in Algebra I (Approximately 65% of current freshmen and 25% of current 8 <sup>th</sup> grade students)	Algebra I teachers  January and June	Algebra I teachers, math facilitator, math department chair	Data used for instructional development and monitoring student progress over time.  Results are shared with students, parents, and students' next math teacher.
Attendance	All students	Attendance office twice per day	Case managers, guidance counselor and interventionist discuss in pupil assistance team meetings	Data is uploaded weekly to state accountability system; attendance for individual students is included on report cards; attendance secretary reports truant students to case managers, counselors, and interventionist
Classroom walkthrough protocol	All teachers	Instructional leadership team conducts daily walkthroughs	Instructional leadership team, department heads, administrators	Notes are shared with observed teachers in writing; aggregate data is

## DEVELOPING A STRONG ACADEMIC PROGRAM

		September through June		shared with department heads and in department meetings
Formal observations	All teachers in years 1-3 in school and teachers who are in odd years	Each 'on cycle' teacher is formally observed three times between December and April	Administration	Observed teachers are debriefed; written summative is provided in late April

**Demographic data** provides context, answering the question, 'Who are we?' It includes information about the characteristics of students, such as gender, ethnicity, and socio-economic status, as well as participation in special programs and attendance. Teacher demographic data, which is also useful to collect, can include certifications, education, professional development, and participation in committees.

**Outcome data** answers the question, 'What did our students do?' Measures of individual students include scores on assessments (including both classroom and standardized), report cards and transcripts, post-secondary outcomes, and behavior/discipline. Aggregate outcome data (graduation rates, AYP) data should be included as well. The outcomes data Michigan Future Schools requires schools to report schools is an effective place to begin and schools should consider analyzing this data on a quarterly basis.

**Process data** answers the question, 'How did we get our outcomes?' Process data is data about the school programs and participation in those programs. Budgets, extracurricular activities, teacher observations, perceptions surveys, staff development, and use of time can all be collected. Lesson plans, notes from team meetings, and student work—both that which demonstrates mastery and that which falls short—are also process data that schools can collect for analysis.

Striving to capture all the data the school collects will make it possible to 'go deep' later in the process, so when taking stock, it is important to get information from as many staff members as possible. Special education teachers, reading specialists, and ESL staff often use specialized assessments with small groups of students and such instruments may go 'under the radar' even though they provide valuable insight into those subgroups. Casting a wide net ensures that the survey of data sources is complete. The data team can organize their findings in a chart or Excel spreadsheet, recording the following information for each data source:

- What type of data is this? (e.g. standardized test, diagnostic assessment, observations)
- Who is included in the data? (all students, subgroups, teachers)
- Who collects the data?
- How often is the data collected?
- Who analyzes the data and what process is used?
- How is the information currently used?
- How are results reported and to whom?

Taking stock can also help the teams to identify gaps in data collection. Schools often focus on outcomes data and neglect process data. However, process data is the key to replicating results. Schools with

strong outcomes can often only describe in general terms the steps they took to achieve those results. While descriptions of instructional techniques, student projects, and other anecdotes can be enlightening, they often do not reveal the true causes of student success. For example, a school that sets aside a chunk of time during the day for students to receive remediation may see students' grades rise, but without data about how many and which students are getting extra instruction, it cannot conclusively tie the effect to any single cause. For the same reasons, most schools can benefit from collecting qualitative and quantitative data about teacher instructional practices (such as through use of a walk-through protocol).

Once the team has taken stock of the data, the next step is to ask the question 'What data is most likely to help us improve teaching and learning?' Beginning by focusing on that smaller set of data will prevent teams from being overwhelmed and getting lost in over-analysis. The school should continue to collect the unused data, as much of it is often mandatory, but it can be held in reserve.

### **School-Level Data and the Instructional Leadership Team**

Once it has set the systems in place—and developed a plan for on-going monitoring of those systems—the Instructional leadership team leads the work of examining data by looking closely at data from state-level, school-wide, and other assessments to set school improvement goals.

Effectively using assessment data provides school leaders with an opportunity to assess the quality of the academic and instructional program and to identify gaps in curriculum and instruction. As students complete cycles of formative and summative assessments, instructional leaders can use results from externally-benchmarked assessments and data collected by the school's alumni success counselor as a 'reality check.' It is not uncommon for teachers and schools to present on report

#### Using Focus Groups to Go Deeper

Focus groups are a powerful means of collecting qualitative data to gain insights into quantitative data. While traditional survey instruments are valuable, supplementing them with focus groups provides the opportunity to ask follow up questions and elicit thoughtful responses. They are especially useful when conducting program evaluations or when the data collected by other instruments points to several root causes.

The process of conducting focus groups begins by asking "What do we want to know?" and "Who knows what we want to know?" to identify the qualitative data to be collected and the audience who can provide it.

Next, develop a small set of focused but open-ended questions. They should be to the point, designed to elicit responses that will provide the necessary information. The questions should also provide opportunities for follow up questions by the facilitator and elaboration by the participants.

Conducting focus groups can be an elaborate exercise or a simple conversation. The formality and planning depends on the target members of the groups. Teachers can conduct focus groups with students they normally work with; guidance counselors, youth development specialists, or others with experience facilitating groups can work with more diverse groups of students or parents. When conducting focus groups with outside stakeholders, such as community members, business leaders, or representatives of local organizations, it may be necessary to train staff members or hire outside facilitators.

#### **Ideas for focus groups:**

- Recent graduates can be asked how well prepared they were for their post-secondary work or education.
- Current students and teachers can be asked about school climate and culture.



cards or transcripts that all students are meeting or exceeding standards; yet in those same classrooms or schools a majority of students are failing to demonstrate proficiency on state assessments or high academic achievement on other externally-benchmarked tests (such as the ACT, SAT, or NWEA MAP).

In such cases, instructional leadership teams need to reexamine the alignment of their curriculum, instruction and assessment practices to the state standards and grade-level expectations. It is important to recognize, however, that external measures are of limited use when evaluating how well students are achieving the school's curriculum and whether the curriculum is indeed guaranteed and viable—thus the need for grade-level and content-level teams to develop the common assessments that hold both teachers and students accountable for teaching and mastering the intended curriculum.

Smart leaders examine the data to find opportunities for quick and easy victories, looking for the small changes that offer the greatest effect. By first 'gathering the low hanging fruit' they can build momentum for themselves and their teams, while inspiring confidence in the process. Adjusting bell schedules, reorganizing student groupings, providing time and place for teachers to collaborate are all easy low- or no-cost steps leaders can take in response to data that can have immediate and tangible effects on student achievement.

Leadership can also model data use by setting and focusing on a single goal for improvement over a short term, such as a single semester. Educators often complain about 'initiative fatigue'. Leadership means setting priorities and establishing focus—and it is difficult, if not impossible, to focus on more than a single thing. Effective instructional leadership teams begin by narrowing the goal and identifying strategies to meet the goal. Those strategies they identify are then focused and narrowed. Feedback on lessons and lesson plans addresses an articulated, specific set of high-impact instructional practices, rather than addressing every aspect of teaching practice in the school. Highly effective instructional leadership teams spend a few hours a day in classrooms, while also creating structures to support teachers in observing and refining their practice (through inter-visitation, walk-throughs, data analysis meetings, and Japanese lesson study. Generally, teachers articulate their own goals for growth and development in addition to working collaboratively on school- and team-established goals. The final planning step is to decide what process data will be collected to determine their level of effectiveness. That data could, in turn, be used to plan professional development to address common issues and challenges.

It is important to note that collecting data about the strategies themselves is a commonly over-looked part of the process. Schools regularly set goals, plan strategies to meet the goals, and measure the impact of those strategies—but rarely do they directly measure the effectiveness of the implementation of the strategies themselves. Asking teachers to visit one another's classroom is not going to improve instruction if it only happens once or twice over the course of the year, or is undertaken by a small proportion of the faculty.

1. Examine the data
2. Establish a single, narrowly-focused goal
3. Determine 3-5 strategies for achieving the goal
4. Decide what data will be collected as evidence of implementation of the strategies
5. Commit to implementing the strategies
6. Collect the data
7. Use the data to plan for team learning

Because the Instructional Leadership Team is uniquely positioned to work with the full range of data, it can make connections that others may not be able to make. Once capacity has been built, teams can be mobilized to make concerted efforts across departments and grade-levels when necessary. For instance, it is fairly widely accepted that most standardized

assessments are, at their core, literacy assessments. However, few high schools are able to successfully overcome the compartmentalization that assigns the sole responsibility for reading and writing instruction to English/Language Arts teachers. So while students continue to struggle with constructed response items in math that ask them to describe their process for arriving at an answer, and students cannot make sense of the vocabulary in biology-related reading passages on the science assessment, the obvious solution to the problem—training staff to incorporate literacy instruction across all content areas—is attempted all too infrequently.

The Instructional Leadership Team has latitude to constitute and reconstitute teams—and itself—to take on such challenges. Many instructional Leadership Teams ensure they have representation across content and grade-levels, so that it can anticipate and address concerns from different corners, though this is challenging in a small school. Grade-level teams at the high school are effective for addressing problems that cross subject areas and can be used to promulgate promising practices interdepartmentally. Special ad hoc groups can be created to address specific concerns, such as literacy teams, numeracy groups, or classroom culture committees. Distributing leadership and responsibility provides opportunities for teachers to develop their skills both inside and outside the classroom, and develops bottom-up (rather than top-down) solutions.

When responsibility for addressing problems is shared, the role of leadership changes. Leaders become advocates for the mission and vision, to ensure that the solutions teams put forward are consistent with the values of the school and strengthen the culture. Leaders have to be sure their staff know the non-negotiables—those things that are so important to the mission and vision as to be sacrosanct. For instance, tasked with increasing reading scores, a cross-disciplinary team comes across research suggesting that bare classroom walls significantly decrease student distraction<sup>42</sup> and, hoping to improve test standardized test scores, suggests that teachers remove all potentially distracting displays school-wide. However, such a directive would collide with the vision of a warm, welcoming school and undermine the value of trust. Thorny issues such as this arise all the time: A plan for scheduling remedial groups or ‘double-dose’ instruction could lead to de facto tracking. After school tutoring could prevent students from participating in extra-curricular activities. Asking teachers across content areas to incorporate writing instruction potentially means less time for content. Leaders have to be sure that teams understand where the limits of their authority lie—preferably before their decisions collide with those limits, while empowering teachers to follow where the data takes them.

### Examining the Data

Being purposeful about data use will feed the school’s culture of continuous improvement. Staff members should develop the skills and attitude to engage in an on-going cycle of collecting a variety of data, analyzing data and developing hypotheses, and then testing those hypotheses by modifying instruction.

With the exception of the data team, which has a specialized role, teams should meet regularly to undertake this work. While there is a wealth of protocols for examining student work (as linked to in the previous chapter), fewer procedures for looking at student data exist. Adapted from the National School Reform Faculty’s “Data Driven Dialogue,” presented below is a five-step process for working with data: predicting, observing, inferring, celebrating, and planning.

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<sup>42</sup> Fisher, Godwin, & Seltman (2014) <http://pss.sagepub.com/content/25/7/1362>

### Step 1: Predicting

This phase of the process is about helping participants see the assumptions they bring to the process and to establish individual purpose for data work.

- What do I assume about the data?
- What do I predict the data will show?
- What do I wonder about the data?
- What might I learn from the data?
- What questions do I have about the data?
- What influences my questions and expectations about the data?

### Step 2: Observing

In this step, participants record what they see without interpreting, judging, or evaluating.

- What do I observe in the data?
- What patterns or trends do I notice?
- What can I count in the data?
- What am I surprised to see in the data?
- What new questions does the data suggest?

### Step 3: Inferring

When inferring, participants are now free to draw conclusions and hypothesize about *why* and offer *because*.

- What do I conclude the data suggests?
- What causes underlie what I see in the data?
- What does the data not tell me?
- What additional data would confirm my conclusion?

### Step 4: Celebrating

Being mindful of the need to celebrate success can help teams maintain their motivation and, more importantly, identify those practices that hold promise.

- What good news is in the data?
- What causes or explanations do I have for the good news?

### Step 5: Planning

In the final step, team members formulate hypotheses about students' instructional needs and develop plans to modify instruction and assess the efficacy of the changes.

- What problems of practice are suggested by the data?
- What promising practices are suggested by the data?
- How do we leverage what the data suggests is working?
- What solutions address the needs implied by the data?
- What data would assess the effect of my proposed solution?

Using the data to plan is the essence of being 'data driven.' Planning moves teams beyond merely producing charts and reports, to taking action. In some cases, planning can result in teams developing SMART goals (Specific, Measurable, Actionable, Realistic, and Time-Bound) for student achievement. However, if individual teacher lesson plans do not reflect what the data revealed about student

achievement, then it is unlikely goals will be met. The specific successful strategies identified in analysis of the data should be adapted across lessons.

Schools in their early years of operation may not have the need or staff to have multiple teams devoted to data and assessment. In that case, a small staff can work together as a single instructional leadership team to build both systems and professional capacity for effectively using data. As the school grows, the charter members of the data team can take leadership roles in new teams, sharing their learning and expertise with their new colleagues.

### Avoiding Potential Pitfalls in Data Use

**Know what inferences the data supports, and which it does not.** For example, state assessments measure a broad range of instructional outcomes, so they make it difficult to draw accurate conclusions about individual student achievement of standards. The misuse of such assessments can be seen when individual schools make ‘passing’ a state-wide assessment a graduation requirement, even though the assessment was not designed for that use.

**‘More of the same, but harder’ is rarely the answer.** Schools, teams, and individual teachers are often reluctant to give up cherished practices, even in the face of data that offers no evidence of their effectiveness. In fact, in the absence of supporting evidence, it is not uncommon for organizations and individuals to ‘double-down’ on ineffective practices in the (mistaken) belief that such practices would yield dividends if only they were done more often or with greater vigor. This is why low-effect practices large (such as tracking), and small (such as the twenty-word weekly vocabulary list), persist in many schools. Instead, be open to examining and challenging all practices, seeking to replace those that have no evidence of success with ones more likely to produce the desired student outcomes.

**Follow the child.** Though some state and federal accountability systems are bound by the practice of comparing cohort groups of students to one another, school-based data and assessment systems should strive to focus on individual student growth. This is vital toward closing the achievement gap and ensuring that students who are behind their grade-level or age peers make the gains necessary to catch up by the time they graduate.

**One year of growth is not enough.** For students who are behind, gaining a grade level per year is not enough to close the gap with their peers and prepare them to be college and career ready. It is vital that schools set growth goals for those students that are both realistic and challenging.

**Find the minimum effective dose.** More is not always better, as schools are not immune to the law of diminishing returns. Henry Ford is famously alleged to have sent engineers out to junkyards to figure out which part on the Model T was least likely to fail. When they reported their results, Ford concluded that the steering kingpin was going to outlast all other parts, so asked his engineers to develop a cheaper, less robust version. Are some schools giving students ninety minutes per day of sustained silent reading when sixty would yield similar achievement gains—and allow for an additional 30 minutes of time for instruction that might be needed in other areas?

### Communicating Assessment Outcomes

Creating a school with rich use of formative assessment and frequent opportunities for students to revise their work has profound implications for grading and reporting. Even for schools that have not fully embraced standards-based or mastery-based learning, providing students with second (or third, or more) chances to demonstrate what they know and are able to do provides challenges when it comes time to determine what appears on a report card or transcript. Schools that have successfully developed effective systems of grading share the belief that grades should accurately communicate student achievement relative to standards.

Traditional systems of grading and reporting are rife with practices that make it difficult for students, parents, and other stakeholders to know what, exactly, a grade means. Doug Reeves refers to these often opaque and damaging grading practices as ‘toxic.’<sup>43</sup> In contrast, schools that use standards, rubrics, and exemplars when evaluating student work are able to provide a level of transparency absent under most grading systems. Schools should make efforts to develop a grading system that reflects the school’s values and supports student achievement and is less ‘toxic’ by creating systems that:

- Grade on established standards
- Report student achievement of standards
- Support student empowerment and accountability
- Report student growth and encourage resilience

**Achievement of established standards** frequently comprises only a portion of a student’s grade. A teacher’s judgment of a student’s behavior, effort, class participation, and other non-academic factors are often included in the reported grade. A well-designed system can communicate information about the three factors teachers typically use to arrive at student grades—product, process, and progress—while accurately communicating student mastery of standards.

**To report student achievement of standards** many high schools are moving toward standards-based report cards, similar to those commonly in use in primary schools. Using a single grade (letter or number) communicates very little about what a student actually knows and is able to do and such grades obscure student achievement by mixing the results of assessments of several different standards or outcomes. Schools that are collecting such data about student achievement (through the use of assessment systems as described above) find that making the leap to reporting the data is not as challenging as they anticipate.

**Student empowerment and accountability** are supported by using maximizing the effectiveness of grades as a form of feedback to students. That classroom teachers universally have had the experience of a student casually glancing only at the grade on a returned paper before stuffing it into their backpack (or dropping it in the trash) demonstrates how poorly grades alone provide useful feedback. Grades that communicate next steps, rather than a simple evaluation, empower students to take responsibility for their learning.

Similarly, the practice of assigning zeros for missing work undermines accountability. In his address “Toxic Grading Practices”, Doug Reeves states, “The appropriate penalty for missing work is getting the work done.” Assigning a zero allows students to evade their responsibility, whereas holding them accountable for completing all assignments ensures that they have the opportunities for practice that they need.

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<sup>43</sup> Doug Reeves on Toxic Grading Practices (YouTube Author Paul Bogush): <https://www.youtube.com/watch?v=jduiAnm-03w>

Casco Bay High School uses a ‘Habits of Work’ rubric to assess student effort and school citizenship, distinguishing between the unable and the unwilling. Students who demonstrate strong work habits are allowed to reassess as many times as necessary to earn credit and, when necessary, to attend intensive competency recovery programs. Students who do not demonstrate effort are not afforded these opportunities.

**Student growth and resilience** are often obscured by the practice of averaging assignments to determine a student’s final grade. Students who may have mastered the same standards as their peers, but just not as quickly are also penalized by this practice. Averages (means) are mathematically dubious representations of data, as the average of a student’s scores on assignments in a class is rarely equal to any one score a student received. A student who takes six tests and earns scores of 75, 75, 75, 100, 100, 100 (3 C’s and 3 A’s) would have an average of 87.5, or a B--despite not earning a B on any of those assignments. Mathematically, mode is often a better representation of student achievement than mean.

Some schools have completely abandoned including formative assessments in grades and use only the highest grade a student earned on a summative assessment (regardless of how many retakes or revisions) to compute the final grade. To do otherwise, they argue, would be to penalize students for practice.

Affecting radical changes in grading and reporting practices is not as important as examining and making intentional decisions about those practices. How teachers, students, parents, and others will know what students know and are able to do should be an on-going conversation.

### **Maintaining Perspective on Data**

Data help instructional leaders see both the forest—the big picture—and the trees—the details that make up the whole. They can help leaders see the path through, but they are not the path and not the journey. Data is the catalyst, driving decisions, supporting goals, and informing reflection. Though this ebook concludes with this section on data, data is not an end in itself. Data does not give instructional leaders answers, nor does it solve problems. Developing and using systems for collecting and analyzing data is a part of the journey and, as daunting as it may seem, it is the small and easy part. Implementing and monitoring instructional and programmatic changes that result from data use are the large and difficult part. Data is only valuable in as much as it helps to improve student achievement. Data alone does not do that.

### **Resources**

Progress and Proficiency: Redesigning Grading for Competency Education

<http://www.competencyworks.org/resources/progress-and-proficiency-redesigning-grading-for-competency-education/>

Douglas Reeves’s The Case Against Zero:

[http://www.ccrea.org/Files/Uploads/252/The\\_Case\\_Against\\_Zero.pdf](http://www.ccrea.org/Files/Uploads/252/The_Case_Against_Zero.pdf)

Douglas Reeves’s Toxic Grading Practices (YouTube Author Paul Bogush):

<https://www.youtube.com/watch?v=jduiAnm-O3w>

The Wallace Foundation's The School Principal as Leader: Guiding Schools to Better Teaching and Learning

<http://www.wallacefoundation.org/knowledge-center/school-leadership/effective-principal-leadership/Pages/The-School-Principal-as-Leader-Guiding-Schools-to-Better-Teaching-and-Learning.aspx>

Answers in the Toolbox

<http://www2.ed.gov/pubs/Toolbox/index.html>

The Toolbox Revisited

<http://www.ed.gov/rschstat/research/pubs/toolboxrevisit/toolbox.pdf>

Toolkit for Conducting Focus Groups

<http://pages.stolaf.edu/2014psych-230/files/2013/08/focusgrouptoolkit.pdf>