The Daggett System for Effective Instruction – Where Research and Best Practices Meet

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International Center for Leadership in Education
Rigor, Relevance, and Relationships for ALL Students

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Converging Challenges

As Western nations struggle to recover their economic equilibriums after the financial crisis of 2008, China and India are leveraging their size and human capital to become global economic powerhouses. Emerging economies such as Vietnam, Argentina, Brazil, Indonesia, and Panama are increasingly capable of winning greater shares of international business. The ability to compete in the interconnected global economy is primarily leveraged by technical innovation and a highly-skilled workforce. A more rigorous and more applied curriculum is needed to drive both levers.

While our schools are working hard at improving, the reality is that the rest of the world is changing faster, leaving a growing gap. In an effort to close the gap, state-supported initiatives for raising standards and measuring student achievement will require schools to change what and how they teach. The "fewer, clearer, higher" Common Core State Standards (CCSS), anchored by the "next generation assessments" (NGA), will raise the bar for most states to help ensure that every student is challenged to achieve and succeed. Proficiency levels will be set higher. Assessment will measure not just what students know, but also what they can *do* with that knowledge. Most schools involved with Race to the Top (RttT) initiatives will need awareness building, planning, time, and support to realize the mandatory 2014-2015 implementation dates of the new learning expectations represented by the CCSS and NGA.

These challenges are driving a greater focus on accountability and a growing demand for proof of effectiveness and efficiency in public education. If *No Child Left Behind*'s Adequate Yearly Progress (AYP) provision laid accountability for results on the backs of principals, today's education policy, including measures such as growth models and teacher effectiveness evaluations, is shifting the burden of accountability to teachers.

What Works — Analysis of the Research

Recognizing the challenges facing schools today is easy. Identifying the most effective ways to address them is not. Education research is plentiful and comprehensive, so much so that studies are available to prove or disprove almost any decision made by education leadership. However, most of the respected research is consistent on one key school improvement issue: effective instruction really matters. No single variable has *more* impact than teaching.

Hattie's *Visible Learning*

Several significant research studies have particularly informed the Daggett System for Effective Instruction (DSEI). One is John Hattie's *Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement.* Hattie analyzed 200,000 "effect sizes" (the relative impact of one factor compared to other factors) from 52,637 studies involving more than 50 million students and covering an exhaustive number of factors.

Hattie's approach was that effect sizes are the best way to identify what has the greatest influence on student learning. The calculations behind his work are complex, but – to simplify - an "effect-size" of 1.0 (defined as an increase of one standard deviation) is typically associated with the equivalent of approximately two years of growth in one year

Hattie's analysis shows that most variables in schools have an effect size of around +0.3 or +0.4, what Hattie calls his "hinge point." Any factor below +0.4 is of lower value. Factors below 0.0 have negative effects. Some factors can be directly affected by an education organization; others cannot. Some noteworthy effect sizes from his research include:

- Formative Evaluation: +0.90 (~ 1.7 years of growth)
- Providing feedback: +0.73 (~ 1.44 years of growth)
- Student Teacher Relationships: +0.72 (~ 1.44 years of growth)
- Prior Achievement: +0.67 (~ 1.34 years of growth)
- Professional Development: +0.62 (~ 1.24 years of growth)
- Socioeconomic Status: +0 .57 (~1.14 years of growth)
- Peer Tutoring: +0.55 (~1.13 years of growth)
- Teaching Test-taking: +0.22
- Reducing class size: +0.21

On the other hand, certain factors have negative impact.

- Mobility: – 0.68 = 1.34 years loss

InTASC Model Core Teaching Standards

Another publication that greatly influenced the Daggett System for Effective Instruction is *InTASC Model Core Teaching Standards: A Resource for State Dialogue*. Developed by the Council of Chief State School Officers (CCSSO), it outlines the common principles and foundations of teaching practice that cut across all subject areas and grade levels and that are necessary to improve student achievement.

Sutton Trust Toolkit of Strategies to Improve Learning

The goal of this United Kingdom study, published in May 2011, was to help schools determine which research-proven instructional practices were most effective in supporting students from economically disadvantaged backgrounds and at what levels of relative costs, even though there "is no direct link between spending on schools and outcomes for pupils." The findings closely parallel Hattie's meta-analysis of instructional effectiveness and also reflect the intent of the International Center's Efficiency and Effectiveness Framework, correlating effectiveness and cost, as described later.

Work of Robert Marzano

Robert Marzano's extensive work focuses mainly on instruction, including *41 Key Strategies Identified by Research for Effective Teaching and What Works in Schools – Translating Research into Action.* As he states in *The Art and Science of Teaching,* "No amount of further research will provide an airtight model of instruction…. The best research can do is tell us which strategies have a good chance (i.e., high probability) of working well with students."

Charlotte Danielson's *The Framework for Teaching*

The *Framework for Teaching* is a research-based set of components of instruction that divides the complex activity of teaching into 22 components.

Focused on Student Success: A Five-Year Research Study of Models, Networks, and Policies to Support and Sustain Rigor and Relevance for ALL Students

The study revealed five key themes, all of which were used in the development of the Daggett System.

1. Leadership: A clear sense of purpose that empowers staff toward a common vision.
2. High expectations: For academic performance as well as college/career readiness.
3. Relationships: Valuing relationships as part of a successful learning environment.
4. Student opportunities: Both academic "stretch" and personal skill development opportunities.
5. Professional culture: Teachers, administration, and staff collaborate toward goals.

It Takes a System, Not Just a Teacher

Research supports what most of us see as common sense: what goes on between the teacher and the each student is central to high-level learning. Effective teaching is not the end goal, however; it is the means to an end: student achievement.

Nevertheless, all teaching is more effective when effectively supported. Achieving the goal of improving instruction requires a supportive and aligned system. Stated another way, although effective teaching is essential, it is not sufficient to maximize achievement for all students. This understanding of the need for an organization-wide commitment is at the heart of the Daggett System.

Daggett System for Effective Instruction

For decades, the International Center has been an active observer of and participant in education reform. The International Center's "on the ground" work with schools has reinforced that it takes an entire system to develop, maintain, and enhance effective instruction. Teachers must be supported by instructional leadership and organizational leadership.

The Daggett System has been significantly informed by:

1. **Observing and disseminating best practices.** The International Center's 20 years of assisting leadership and teachers, as well as identifying, studying, and showcasing America's most successful schools, including its CCSSO-co-sponsored Bill & Melinda Gates Foundation-funded research on thousands of America's most effective and most rapidly improving exemplar schools and school districts – at the annual Model Schools Conference and other events.
2. **Current and past research** conducted by some of the most respected thought-leaders in K-12 education, as described previously.

   At the same time, the Daggett System departs from some of the existing models and frameworks for teaching in several significant ways.

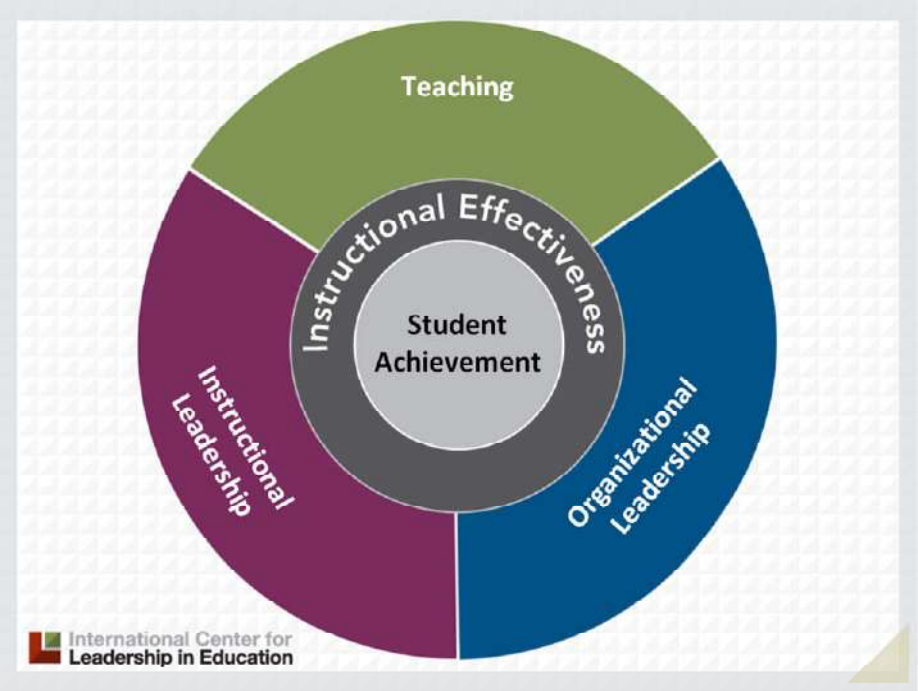
Traditional Teaching Frameworks	Daggett System for Effective Instruction
What teachers should do	What the entire system should do
Teacher-focused	Student-focused
Teachers deliver instruction	Teachers facilitate learning
Vision is set by top leaders	Vision is built more inclusively
Define vision primarily in terms of academic measures	Define vision as strong academics and personal skills and the ability to apply them
Rigid structures support adult needs	Flexible structures support student needs
Focus on teaching	Focus on learning

Other models are excellent guides and tools for what they choose to focus upon, primarily teachers' professional development, mastery of content, and use of instructional strategies.

By comparison, the Daggett System's most distinguishing attributes include:

- focus on coherence and alignment at the system/organization level
- focus on instructional leadership grounded in a broad base of analysis and meta-analysis research on instructional effectiveness
- balancing effectiveness with considerations of efficiency (e.g., affordability)
- best practices drawn from partnering with model schools

The Daggett System leverages more than the teacher in the classroom. It emphasizes vertical alignment — with organizational systems and structures and with instructional leadership — and horizontal alignment — with teaching colleagues and classroom resources — as keys to success. Because teachers are the most powerful influence on instruction, the entire system needs to be focused on making teachers effective. Therefore, the Daggett System provides a coherent focus across an entire education system: Organizational Leadership, Instructional Leadership, and Teaching.



Organizational Leadership

Organizational leadership is a function, not just a person. It involves a mentality, structure, focus, and commitment to create the environment in which learning is optimized. Six primary functions of Organizational Leadership are listed below.

Create a culture of high expectations. That culture must communicate and encompass:

- *Why:* the challenges of changing demographics, a wired and tech-savvy generation of students growing up in a digital world; as well as a global economy in which America must innovate and compete.
- *To Whom:* students, staff, and community stakeholders
- *How:* through active and ongoing communications and messaging at staff development events, community forums, business roundtables, and so on.

Create a shared vision. Culture needs to be embedded in goals and action plans focused on instructional effectiveness that all stakeholders can understand, contribute to, and commit to. The International Center's *Learning Criteria* is a broad, holistic framework of variables that help establish a common definition of student success, not just as scholars but as future workers, citizens, consumers, and parents.

Build leadership capacity. Organizational leadership needs to enhance existing leaders and identify and cultivate the development of emerging, future leaders. Doing so broadens the leadership capacity of the organization immediately and paves the way for continuous development and growth of new leaders.

Align organizational structures and systems to vision. Once culture, mission, and distributed and empowered leadership are established, Organization Leadership needs to

- decide which external impediments to instructional effectiveness can be changed or compensated for and which are beyond the control of the education organization
- ensure enabling conditions and structures to support instructional effectiveness are in place
- identify which factors impacting effective instruction are most effective and efficient

Using the International Center's Effectiveness and Efficiency Framework, the Daggett System extends the data and research on effectiveness provided by Hattie and others to do just that. It allows decision-makers to consider the broader perspective of how to prioritize initiatives related to enhancing instructional effectiveness according to what can reasonably be impacted, then examining both effectiveness *and* efficiency. For example, by analyzing a few of Hattie's factors using the Effectiveness and Efficiency Framework, it can be further determined that they not only are effective, but also make efficient use of resources i.e. provide the highest "return-on-investment."

	Effect (Standard Deviation) 1 Standard Deviation = ~2 years growth	**Relative Cost**
Student Teacher Relationships	.72 (11)	Low
Application of Knowledge	.65 (17)	Low
Professional Development	.62 (19)	Low

Align teacher/administrator selection, support, and evaluation. Organizational Leadership's role is to adopt "talent management" systems for recruitment, retention, development, and evaluation that are understood, broad-based, focused on instructional effectiveness, and aligned horizontally and vertically among all individuals who support instructional effectiveness and student achievement. These systems must also reinforce for all staff the instructional vision of the organization,

Support decision making with data systems. Organizational Leadership needs to ensure that a data system is used to inform and enhance instructional effectiveness. This includes building "data literacy" among all stakeholders as well as emphasizing the importance of data-driven decision making.

Instructional Leadership

Instructional Leadership is directly focused on instructional effectiveness and ultimately student achievement. Instructional Leadership can be provided by a variety of people, functions, and means in support of teachers, such as:

- district and regional instructional leadership
- principals, assistant principals
- department chairs
- expert teachers, counselors, social workers
- mentor teachers, teacher coaches, teaching peers /team leaders.

The Instructional Leadership segment of the *Daggett System* concentrates on five overarching elements:

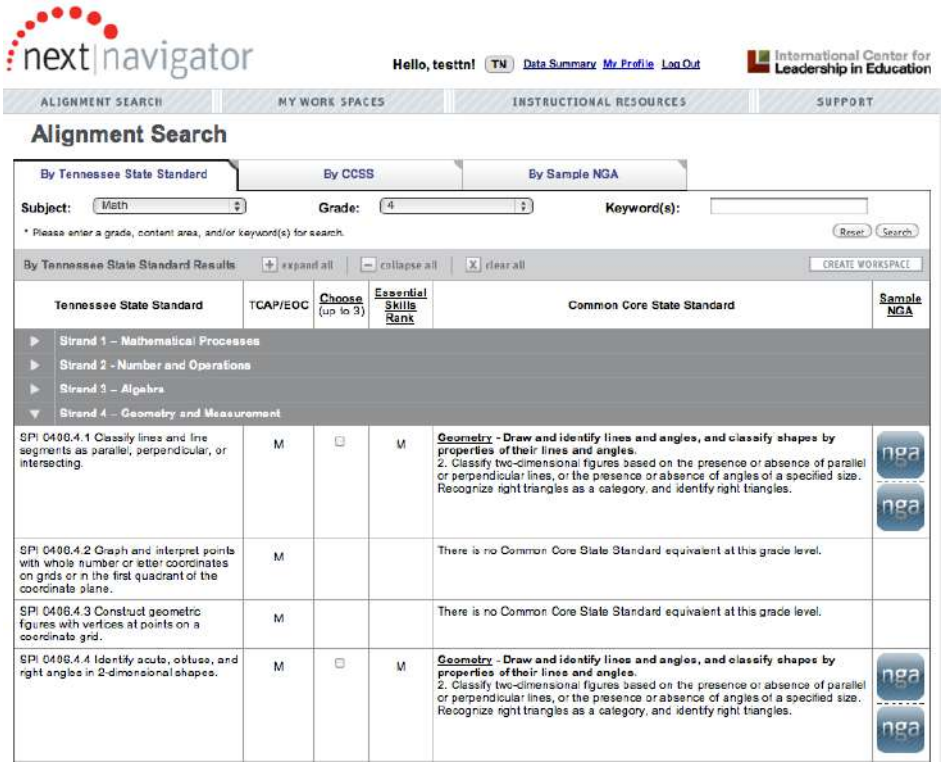
Use research to establish urgency for higher expectations. The first job of Instructional Leadership is to reinforce the vision set forth by Organizational Leadership. To do so, Instructional Leadership must offer "proof statements" to staff, students, and stakeholders: research and authoritative testimony that corroborate the urgent need for improvement in student achievement. The International Center's National Essential Skills Study and its research on reading and math proficiency levels involving the Lexile Framework® for Reading and Quantile Framework for Mathematics are examples of such

indicators. Instructional leaders also need to see themselves as the key change-agents in raising standards and expectations.

Align curriculum to standards. Instructional leaders also need to prepare teachers for the new types of instruction and formative assessment that are at the core of CCSS and the related assessments. To bridge the gap between the current state tests and the new assessments, the International Center's Next Navigator supports instructional leaders and teachers in planning instruction that prepares students for these requirements.

Next Navigator

- aligns state standards with essential skills and Common Core State Standards.
- identifies gaps in the current curriculum and grade-level progressions between state standards and the expectations of the CCSS
- provides exemplary performance tasks that will help prepare students for the rigor and application in the next generation assessments.



Integrate literacy and math across all content areas. Literacy and math are essential for success in college and careers and are therefore consistent with the CCSS, with special emphasis in the English language arts standards placed on text complexity and non-fiction transactional reading and writing. The CCSS also emphasizes the practical applications of literacy. All teachers at all grades and across all subjects need to assume responsibility for this heightened emphasis on broad-based literacy development. Similarly, the CCSS focuses on what it calls "Standards of Mathematical Practice," which consist of process standards (such as problem solving, reasoning and proof) and "strands of mathematical proficiency" (including adaptive reasoning, strategic competence, conceptual

understanding, procedural fluency and productive disposition). Therefore Instructional Leadership must ensure the integration and application of literacy and math standards across all curriculums.

Facilitate data-driven decision making to inform instruction. To meet the needs of diverse learners, teachers must use data to measure student growth and inform and differentiate instruction. Achieving this goal will involve both providing teachers with a clearer understanding of student data and how to apply that understanding to actionable instruction and interventions.

Provide opportunities for focused professional collaboration and growth. The research conducted by Hattie and others clearly shows the importance of teacher selection and development, and a continuous cycle of evaluation and support. Race to the Top (RttT) and pending federal education legislation mandate the availability of quality and sustained professional development, in part as an underpinning of the new emphasis on teacher performance evaluation systems.

Professional development is one of the cornerstone "Four Assurances" in RttT: "Recruiting, developing, rewarding, and retaining effective teachers and principals, especially where they are most needed." And rightly so. With an effect factor of .62 (the equivalent of approximately 1.24 years of growth) on Hattie's scale, professional development also clearly is a high impact – and cost effective - approach to improving instructional effectiveness for student achievement.

Teaching

If Organizational Leadership does its job to establish an overarching vision and mission, deal with obstacles, align systems and build leadership capacity; and if Instructional Leadership ensures that tools, data, and support are made available and accessible to teachers; then the vanguard of instructional effectiveness – teaching – will be well supported in addressing the daunting challenges of the classroom.

Drawing on the research on teacher effectiveness and observations of best practices for two decades, the Daggett System includes the following six broad elements under Teaching.

Embrace rigorous and relevant expectations for all students. Teachers must embrace the organizational vision that all students *can* and *will* learn and must strive to help every student reach his or her fullest potential. This is the attitude that effective teachers bring to class every day. Embracing high expectations is an offshoot of commitment and caring for individual students. The equivalent "success criteria" factors in Hattie's analysis, "Mastery Learning" and "Feedback", indicate effectiveness factors of +0.53 and +0.73, respectively.

Build strong relationship with students. One of the findings of the International Center/ CCSSO research on characteristics of successful schools funded by the Gates Foundation was that teacher to student relationships have a major impact on student achievement. The presence of strong, positive, trusting relationships impacts student engagement and therefore fuels students' sense of belonging and commitment to their own learning. Hattie places Student Teacher Relationships at +0.72, or approximately the impact of nearly a year and a half growth every school year.

Possess depth of content knowledge and make it relevant to students. While teachers must have strong content expertise in the subjects they teach, effective instruction is more than just a transmittal of knowledge. It is equally the ability to make connections, show relevance, nurture engagement and embed understanding. The new Common Core State Standards will require this same rigorous-but-

relevant approach to teaching and the next generation assessments will require students to show their ability to apply higher order thinking, not just recall knowledge.

Facilitate rigorous and relevant instruction based on how students learn. Every teacher needs a thorough understanding of pedagogy as well as a versatile and comprehensive repertoire of instructional strategies – classic and innovative – to draw from in planning and providing instruction so they can match teaching approaches with learning objectives, subject matter, and targeted learners.

Teachers also need a clear understanding of today's students who are "wired differently"; who want to see a reason for learning something; who fascinate their elders with their technology skills – in fact, they take connectivity and instant access to information and to one another for granted; who multi-task; and, perhaps most significantly, who would rather "do to learn" instead of "learn to do." They collaborate naturally and seamlessly. Not surprisingly, they simply learn differently. The abundance of recent discoveries in neuropsychology and brain research can and should inform teachers' understanding of 21st century learners.

Demonstrate expertise in use of instructional strategies, technology, and best practices. Teachers must become comfortable and skillful in "wherever learning" strategies. In successful schools, learning takes place in the classroom, by completing an individual assignment, working in groups, sitting with a tutor, learning online, via cell phones, smart boards or using a computer, completing a family lesson around the kitchen table, in a lab, in the gym or band room, at an outdoor education center, at a museum, on a field trip, and interviewing a guest speaker. Instructional effectiveness extends far beyond the walls of the classroom.

The professional development opportunities needed to support teachers in today's learning environments are huge and will not be met with traditional workshops or unfocused staff development days. Teachers will need time and a safe environment to practice and develop the skills of effective instruction. Many will need coaches working with them in the classroom to model best practices. They will need time for reflection with their peers in order to make the best practices part of their repertoire of skills. Fortunately, most teachers value, expect, and welcome meaningful professional development that is directly related to their work, is based on current research and best practices, and meets their individual needs.

Use assessments to guide and differentiate instruction. Good teachers always ask themselves: "Did they *ALL* get it? How do I know they *got* it? How do I measure mastery? How do I help those students who didn't? How do I know at any given point in the year if students are on track to achieve? Hattie's meta-analysis rates the use of formative assessment data to inform instruction as the number one factor in instructional effectiveness – a rating of +0.90, or almost two full years of growth in a single year.

Summary

The Daggett System for Effective Instruction is more than an approach to enhancing instruction and instructional capacity. It is a way of thinking about what we believe about children, schools, and learning which has coalesced at a critical time in American education when standards, assessments, accountability, teacher evaluation systems are intersecting with budgets, the global economy, technological innovation, "wired kids," and public policy debates.

The Daggett System builds upon the ideas, inspirations, practices, and research of others, including the best research and meta-analysis on effective instruction and the years of collective experience that International Center staff, consultants, and thought-leaders have accumulated and harvested from thousands of American schools. The Daggett System recognizes the primacy and immeasurable value of great teachers and great teaching and strives to align education systems and functions with what teachers need to be the best support to learners. It does so by looking not only at teachers, but also beyond the classroom to inspire leadership at all levels in support of instruction. The Daggett System challenges all educators to consider the possible with a sense of practical urgency and a buoyant sense of the possible.

The Daggett System for Effective Instruction is a way to transform a traditional system into one that better supports all teachers and more fully prepares every student for college, careers and citizenship.

TEACHERS

TRADITIONAL	WHAT IS NEEDED
"Deliver" instruction	"Facilitate" learning
Student	Learner
Test scores (easy to measure)	Holistic assessment of learner (difficult to measure)
Proficiency	Growth
Standardized approach	Personalized, differentiated for each learner
Content-focused and narrow (Quadrants A / C)	Application focused (Quadrants B / D) Probing questions, scaffolding
Instruction in classroom only, bell schedule- limited	Learning anyplace/anytime, 24x7, technology
Teacher-centered	Learner-centered
Passive learning	Active learning
Learn to do	Do to learn
Assessment has single purpose (proficiency)	Smarter, balanced assessments with multiple purposes (assess for proficiency, growth, formative, predictive)
Teacher as "sage on the stage"	Teacher as facilitator of learning
Define learning in terms of required content to teach	Define learning in terms of skills and knowledge as results
Define learning from specific skills up to total student	Define learning from whole student down to specific skills
Cover as many topics as possible	Help students learn priority skills deeply
Break apart curriculum	Integrate curriculum
Entire curriculum mandatory	Curriculum includes some student choice
Teach skills in isolation	Teach skills in context
Focus on deficiencies	Focus on proficiencies
Look for evidence of good teaching	Look for evidence of good learning
Standardized procedures	Shared best practices
Give separate assessments	Give embedded assessments
Isolate instruction from community	Connect instruction to community

INSTRUCTIONAL LEADERS

TRADITIONAL	WHAT IS NEEDED
Manage in the current system	Change the system
Use past experience to solve problems	Learn new ways to adapt and change
Promote standard procedures	Adapt to unique situations
Replicate practices with fidelity	Create new practices to meet student needs
Look to supervisors for answers	Look to staff to take actions
Rely on individual expertise	Share each other's expertise
Authority	Collaboration

ORGANIZATIONAL LEADERSHIP

TRADITIONAL	WHAT IS NEEDED
Set vision by top leadership	Set vision with wide contributions
Define vision in few academic measures	Define vision in term of whole student needs (LC)
Place priority on short term results	Place priority on long-term improvement
Limit goals to best students	Expand goals to all students
See vision as top leaders' initiative	Embrace vision universally
Instill fear with goals	Inspire passion with goals
Rigid structures to support adult needs	Flexible structure to support student needs
Top down change for ease of administration / compliance – teachers as objects of change	Top down support for bottom-up reform – teachers as agents of change

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