

Rising to the Challenge of College and Career Readiness

*A Framework for
Effective Practices*



advancing
lives

Overview: The Challenge

Nearly every state has adopted the goal of college and career readiness for all students. At the end of 2011, 45 states had adopted the Common Core State Standards (CCSS) in English language arts (ELA) and mathematics,¹ with the stated goal to prepare students to “graduate high school able to succeed in entry-level, credit-bearing academic college courses and in workforce training programs” (Common Core State Standards Initiative, 2010a).² Other states, such as Texas and Virginia, have also focused on aligning their content and performance standards with college and career readiness requirements (Virginia Department of Education, 2010; Texas Education Agency & Texas Higher Education Coordinating Board, 2009).

Not surprisingly, current research shows that many students are not on target to meet college and career readiness requirements. For example, if performance standards for the Common Core State Standards are set at a level comparable to ACT’s College Readiness Benchmarks—consistent with the goal of preparing students for college and careers—the majority of today’s students are not well prepared to meet those standards (ACT, 2010).

2. The Core Practice Framework: Helping to Meet the Challenge

To enable them to meet higher standards, students need a content-rich curriculum from preschool all the way through high school—not only in English language arts and mathematics, but also in science, history, geography, civics, and the arts. To craft and teach such a curriculum, school districts must develop a coherent system of effective educational practices and steadily improve those practices over many years, despite the numerous distractions placed in their way.

Such a system of effective practices is provided in the Core Practice Framework, derived from research by ACT’s National Center for Educational Achievement (NCEA). The Framework practices are organized around five primary themes related to improving teaching and learning (NCEA, 2012):

1. **Curriculum and Academic Goals:** What do we expect all students to know and be able to do in each course, grade and subject?
2. **Staff Selection, Leadership, and Capacity Building:** How do we select and develop the leaders and teachers needed to ensure every student in the system meets these expectations?

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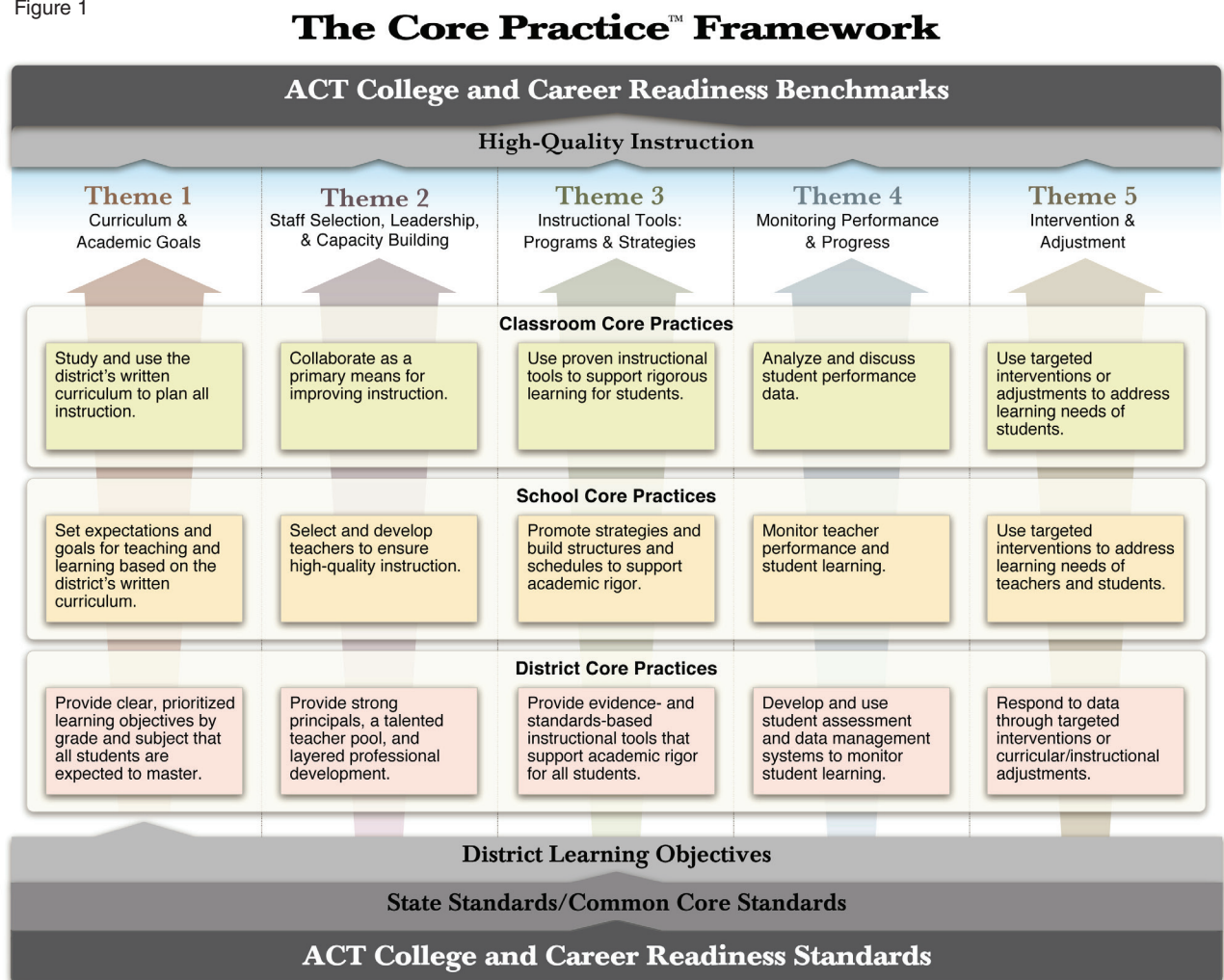
¹ One additional state (Minnesota) had adopted the ELA standards but not the mathematics standards.

² Academic preparation levels required for career readiness are similar to those required for college readiness, when career readiness is defined as adequate preparation for postsecondary workforce training programs that lead to careers in growing fields that pay a family-supporting wage (ACT, 2006).

3. **Instructional Tools: Programs and Strategies:** What programs, strategies, materials, and time allocation do we use to teach the necessary content and skills?
4. **Monitoring Performance and Progress:** How do we know if students learned what they should?
5. **Intervention and Adjustment:** If students are not learning what they should, what do we do about it?

The Framework identifies 15 Core Practices based on these five themes and three system levels: district, school and classroom (Figure 1). The differentiation among the organizational levels is an important dimension of the Framework. The effectiveness of a school system can be assessed by how well each level is functioning relative to its assigned roles within the system. Who assumes certain responsibilities can be as important to success as whether a certain task is done at all. The Core Practice Framework helps illustrate the highly interrelated practices of all three organizational levels.

Figure 1



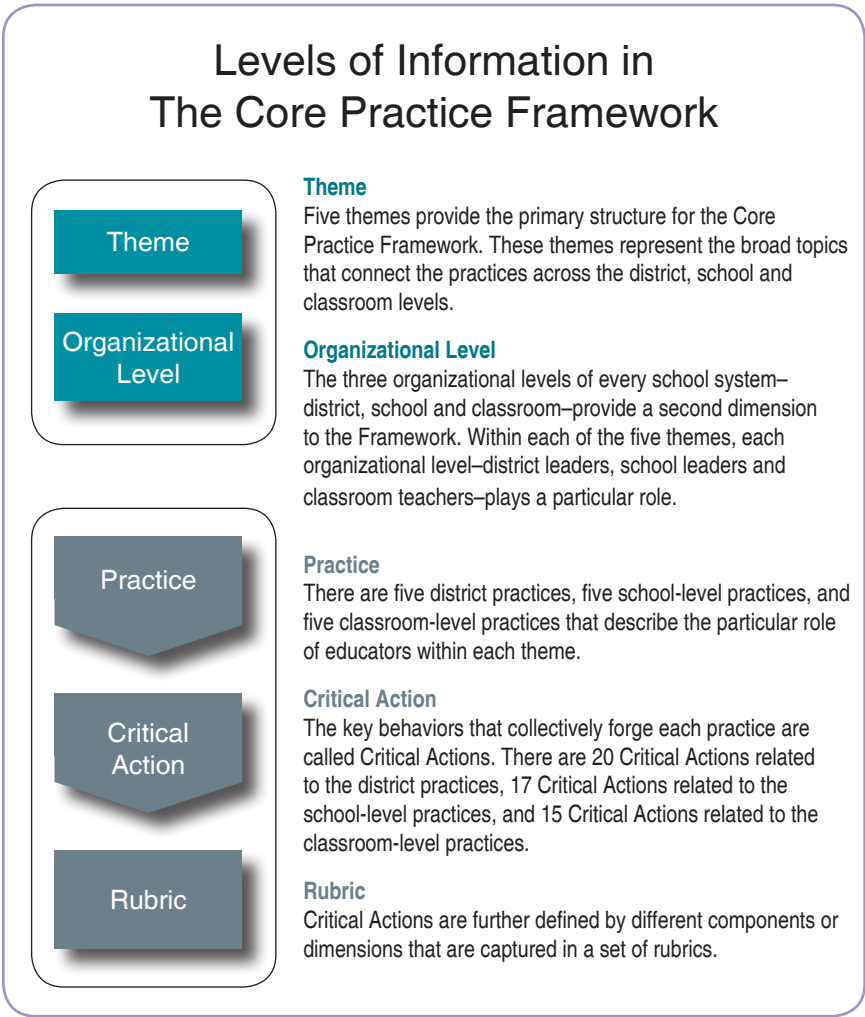
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Reading from bottom to top, ACT CCR Standards, State and Common Core Standards, and District Learning Objectives (written curriculum) are the foundation. Applying the 15 Core Practices to the development and teaching of this curriculum leads to high-quality instruction, which creates the opportunity for all students to reach college and career readiness.

Under each of the 15 Core Practices, the Core Practice Framework provides between two and seven Critical Actions with additional detail on the practice; in turn, each Critical Action is described by a rubric that can be used to identify how well the Action is being implemented (Figure 2). The information on each Critical Action in the Framework was derived from research in more than 550 higher and average performing schools in over 300 school districts in 20 states (NCEA, 2012). The practices in the Framework address processes and behaviors that district and school leaders must consistently implement to support high-quality instruction in every classroom and make the best use of the district's available resources.

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Figure 2



Rich content in the early grades is particularly important to ensure students develop the vocabulary and background knowledge necessary for reading and writing in Grade 4 and beyond.

3. Actions to Help Students Master Readiness Standards

This section provides examples of how educators can apply the Critical Actions under each of the five themes in the Core Practice Framework to create systems that will help students master rigorous academic standards.

Theme 1: Curriculum and Academic Goals

Improvement efforts must focus first on what is to be taught and learned and how well students are expected to learn it. The goal is to ensure students in each grade and course are taught the knowledge and skills that will prepare them for the next grade and course (Hirsch, 2002), and that the entire learning sequence from preschool through high school prepares them for college, other postsecondary learning opportunities leading to skilled careers, and informed citizenship.

District leaders need to adopt a clear, specific, content-rich curriculum to complement state standards. For example, the Common Core State Standards specify that they must be “complemented by a well-developed, content-rich curriculum,” which should include grade-by-grade curriculum in content areas such as science, history, geography, civics, and the arts, as well as English language arts and mathematics (Common Core State Standards Initiative, 2010b). Rich content in the early grades is particularly important to ensure students develop the vocabulary and background knowledge necessary for reading and writing in Grade 4 and beyond (Chall, Jacobs, & Baldwin, 1990; Hirsch, 2003; Marzano, 2004; Neuman, 2010). The curriculum should be carefully aligned across grades and courses in prekindergarten through Grade 12 and show clearly how its components prepare students well for college, career, and informed citizenship. Such a curriculum is most beneficial for disadvantaged students who are less likely to be exposed to rich content outside of school.

A written district curriculum can do a number of things that state-adopted standards typically do not. First, the curriculum can specify more clearly and in greater detail what is to be learned. Given this greater detail, the curriculum can align content across grade levels more precisely than state standards often do, so that what students learn in preceding grade levels prepares them to understand what is taught in subsequent grades. The curriculum can address the levels of student learning that are expected—for example, by the use of model student assignments and samples of student work. It can allocate learning time across topics in a given subject so that students are given enough time to learn each topic in sufficient depth and detail. It can also allocate learning time among subjects so that sufficient time is devoted to each subject in every grade (Willingham, 2009a). The curriculum can take advantage of connections

across subjects, so that, for example, if the students are learning about volcanoes in science, they might read a story about Pompeii in language arts and perform computations about volcanic activity in math class.

The district leadership should lead the process of developing and refining the district's written curriculum. Once this curriculum is adopted, the district should ensure it is taught and learned in classrooms throughout the district. District leaders also have the responsibility of explaining to the public how a content-rich curriculum prepares students to acquire new knowledge and thereby adapt to the changing world in which they live (Willingham, 2006).

School leaders need to be prepared to lead discussions on the priorities set by the district's written curriculum, and on how mastery of that curriculum in one grade prepares students for subsequent grades. School leaders' knowledge of the curriculum should be reflected in their discussions with teachers: for example, to what extent are students' learning difficulties related to lack of relevant prior knowledge? Could those difficulties reflect a weakness in the curriculum or in how well it was taught? How critical is students' mastery of specific knowledge and skills today to their learning in future grades? What might happen if we reduce (or increase) the learning time devoted to the topic? Is the rigor described in the curriculum well reflected in classroom activities and assignments?

School leaders should also discuss alignment of curriculum across school levels, so that students experience a seamless learning transition as they move from elementary to middle to high school. Leaders should set ambitious school improvement goals, aiming to place students on a path that will enable them to graduate from high school prepared for college, skilled career training, and informed citizenship.

Classroom teachers need to know exactly what is to be taught and learned—and to what level of mastery—in their grades and subjects. They should be able to provide examples of what mastery-level learning looks like for each curricular objective. They should also know the specific role their grade and subject content plays in students' cumulative educational experience. This understanding should guide their lesson planning and conversations about student learning.

Teachers should also communicate with parents and students about the content being taught and how it prepares students for later learning. They should know what content is measured on district and state assessments and be able to explain why it is important to teach curricular content not tested by the state.

Leaders should set ambitious school improvement goals, aiming to place students on a path that will enable them to graduate from high school prepared for college, skilled career training, and informed citizenship.

The goal is to create an environment of productive collaboration among teachers and school leaders in open and trusting learning communities.

Theme 2:

Staff Selection, Leadership, and Capacity Building

A content-rich curriculum must be taught by skilled, knowledgeable teachers in every classroom. School and district leaders, in turn, create the environment for teaching to flourish. So how can educators at all three levels increase the odds that this will happen?

District leaders must recruit, select, develop, and sustain principals in each school who are strong leaders in curriculum, instruction, and assessment. Whether school leaders are recruited from outside or promoted from within, their selection should depend on their track record in improving student learning. District leaders must also develop a system for recruiting an outstanding pool of potential teacher hires. In turn, each school's principal or leadership team should be given final authority to select teachers from this pool.

District leaders should establish training programs focused on curriculum, instruction, assessment, and interventions. To ensure adult learning on these core topics is ongoing, resources and time for peer-to-peer collaboration during the work week must be provided for district leaders, principals and teachers. District leaders can also support teachers by providing them access to instructional coaches with a proven record of success with students.

School leaders must select, develop, and support effective teachers. As part of the selection process, they can work with current teachers to develop a profile of the specific instructional skills needed for the school's open positions—for example, the first-grade team may need someone with strong mathematics and science teaching skills. Once teachers are hired, they must be carefully mentored to develop their knowledge of the district's curriculum, effective instructional strategies, diagnosis of student learning, and interventions for students who need additional attention.

With the support of the district, school leaders need to ensure teachers have adequate common planning time during the week. During this time, principals can engage them in studying effective classroom lessons and teaching strategies and provide them with opportunities to develop leadership skills. Teachers who are skilled instructional leaders can be assigned roles as mentors and instructional coaches. The goal is to create an environment of productive collaboration among teachers and school leaders in open and trusting learning communities.

Classroom teachers should work together in collaborative teams focused on improving their instructional practices. As part of their routine responsibilities as team members, teachers can freely share materials and instructional strategies; develop, review, and refine lessons; and study student work samples and common assessment results. They can observe instruction in each other's classrooms and reflect with their colleagues about how well a particular lesson did or did not work. These collaborative activities should be considered a routine part of teachers' professional work, just as medical specialists in a teaching hospital collaborate in making decisions on how best to treat patients.

Theme 3:

Instructional Tools: Programs and Strategies

Strong instructional leaders and highly skilled teachers need evidence-based tools, resources, and instructional strategies.

District leaders should establish a process to ensure instructional materials purchased by the district are high quality, aligned with the district's written curriculum, and effective at increasing student learning. Some districts involve teachers extensively in this process. Districts may also pilot more than one instructional program in a competition to determine which is most effective.

Once the instructional programs and materials are chosen, district leaders must provide the necessary support and resources for educators to use the materials effectively. District leaders should also develop a system for identifying and sharing effective instructional strategies, guided by feedback from teachers and a careful review of prior research (Marzano et al., 2005; Lemov, 2010; Schmoker, 2011).

School leaders should develop a thorough understanding of effective instructional strategies in each subject area and assist teachers with those strategies. They should ensure the instructional arrangements in their school support students' mastery of the district's curriculum. In elementary schools, this entails devoting adequate instructional time to each subject and regrouping students as needed to accelerate learning. In middle and high schools, this includes placing all students in courses that challenge them and provide a path to college and career readiness.

The school's master schedule can be used in several ways to support instructional improvement: to allocate instructional time across subject areas; to give students equitable access to experienced and effective teachers; to provide collaborative planning time for teachers of the same grade or subject; and to ensure students have adequate learning time in subjects in which they need assistance.

Classroom teachers should study and use effective instructional strategies to help every student master the written curriculum (Rosenshine, 2012; Clark, Kirschner, & Sweller, 2012). Some of these strategies include rigorous questioning techniques; mastery learning; scaffolding tasks for beginning learners; regrouping students; and regular reviews and reinforcement of learned objectives. By using these strategies, teachers can make the best use of scarce instructional time and keep students challenged and focused on learning content at an appropriate degree of difficulty. Teachers can use their professional judgment to select the best instructional strategies and materials for each lesson.

Teachers must also understand that texts and other purchased instructional materials are not the curriculum; they are tools to help students master the curriculum. Likewise, activities should be chosen not only by how much they engage students, but also by how effectively they contribute to student learning of the knowledge and skills addressed in the curriculum (Willingham, 2009b).

By using these strategies, teachers can make the best use of scarce instructional time and keep students challenged and focused on learning content at an appropriate degree of difficulty.

School leaders must match their knowledge of curriculum with an equally strong knowledge of assessment.

Theme 4: Monitoring Performance and Progress

Teachers and school and district leaders must use multiple indicators to monitor whether students are learning the curriculum in each subject.

District leaders need to implement student assessment and data monitoring systems to track student learning. These systems should be organized to provide information on students' mastery of clearly defined objectives from the district's curriculum. In addition, the information on individual students should be longitudinal, showing information on the same students over time. Longitudinal data can provide information on whether a weakness in a student's performance is temporary or longstanding and whether the student has had trouble in the past with skills that are prerequisites to what is being taught. The information should also be presented in readily available, user-friendly reports tied to classroom rosters, so teachers do not have to laboriously pull together information from multiple sources in order to create a data picture of their students' learning.

District leaders should promote the development of local assessments that address the district's curricular goals with greater frequency, thoroughness, and depth than can typically be done by statewide assessments. Local assessments can also provide a "second opinion" to state test results: can students apply the same knowledge and skills if they are assessed in a different way? Local assessments should also provide information on grades and subjects not covered on state tests.

District leaders should ensure a system of professional development is in place to enable principals and teachers to be effective practitioners of informal assessment and strong users of assessment information. In doing so, they should promote a culture of collaborative, thoughtful data use: data should be viewed primarily as a valuable guide to improving teaching and learning, not an instrument of detection and punishment. In addition, district leaders should work closely with school leaders to ensure structured time is available for data use and that teachers have the expertise to use the data.

Finally, district leaders can promote the use of district audits and school quality reviews to monitor progress in improving curricular rigor, instructional strategies, and student outcomes.

School leaders must match their knowledge of curriculum with an equally strong knowledge of assessment. Where needed, they should work with teachers to develop common assessments that provide a more detailed picture than that provided by district benchmark exams and state tests. In addition to pencil-and-paper tests, these common assessments might include hands-on science assessments; collection of writing samples; recording of oral reading; unit pretests; checklists and rubrics; and students' self-ratings.

School leaders should promote thoughtful use of assessment data by teachers and ensure every teacher has the information and training needed to fully understand the strengths and limitations of different kinds of assessment data. They should also work with teachers to diagnose student learning problems: do these students need different instructional techniques, more time to practice and review, or a curriculum that does a better job of filling in the holes in their prior knowledge?

Classroom teachers should use performance data from state-, district-, and school-developed assessments to monitor student learning of the district curriculum and inform team discussions and decisions.

In addition, teachers should use a variety of informal assessments to guide their daily work with students. They can monitor student behavior, engagement, seatwork, group participation, and homework. They can use questioning at critical points throughout the lesson to monitor student understanding and keep students on task.

Teachers should also communicate to students and their parents the information gained from assessments. Parents should be informed as to whether their children are on target, what “on target” looks like, what the goals for their children are, and what can be done to help their children reach those goals. Teachers should cultivate this same understanding in their students, teaching them to self assess: what does good work look like? How do you improve your work?

Parents should be informed as to whether their children are on target, what “on target” looks like, what the goals for their children are, and what can be done to help their children reach those goals.

Theme 5: Intervention and Adjustment

When assessments show that students need extra help or are ready for advanced work, schools and districts must be organized to meet these needs.

District leaders must work with school leaders to develop intervention systems that target assistance to students who are falling behind in any grade and subject, including subjects not covered by state tests. A strong district curriculum and timely assessments make it easier for students in need to be identified early when extra assistance can have the greatest impact. Maintaining data on the extra help each student received can make it possible to analyze which interventions have proven necessary and sufficient to set students on target (Dougherty, 2010).

District leaders can also use data systems to identify and assist struggling schools long before state accountability systems indicate the need for urgent action. Assistance can include mentoring and coaching of the schools' leaders and teachers. District leaders should also use data to diagnose system-wide problems: for example, the elementary-school curriculum may not be designed to prepare students adequately for middle and high school. Curriculum or instructional resources may need to be adjusted when problems with student learning are district-wide.

Classroom teachers need to begin their interventions within the first week of school for students who have not mastered grade-level prerequisite skills.

School leaders need to work with district leaders and teacher teams to ensure systems are in place to identify students who need additional attention and support, either because they are performing below grade level or because they have demonstrated early mastery of the curriculum and are ready for extended learning opportunities.

Just as district leaders should be quick to help struggling schools, school leaders should be quick to help teachers in need. Based on the difficulties they are experiencing, teachers can receive assistance from master teachers or instructional coaches on classroom management and teaching strategies.

Classroom teachers need to begin their interventions within the first week of school for students who have not mastered grade-level prerequisite skills. Additional instruction in these prerequisite skills should be provided prior to the introduction of new material that requires the use of these skills, as opposed to waiting until after the new material has not been mastered. Teachers can use re-teaching, flexible grouping, increased instructional time, and paraprofessional support for learners needing additional assistance. Teachers must also be quick to seek support from their colleagues for students who perform below grade level. In addition, teachers can seek and solicit help from parents by clearly indicating how parents can support their students' learning.

Just as they assist students who are falling behind, teachers must be prepared to provide accelerated and extended learning opportunities to students who demonstrate early mastery of the material. These opportunities should be available not only to students identified as gifted and talented, but to anyone who demonstrates early mastery of the academic objectives at any point during the school year. For example, teachers might group together the early-mastery students from several classrooms in order to teach an extended-learning unit to those students.

4. Conclusion:

Rising to the Challenge

Helping students master the content-rich curriculum that is key to college and career readiness will require a long-term, district-wide improvement effort. District leaders are in charge of organizing the improvement process and ensuring school leaders and classroom teachers play a significant role. How can they assess and prioritize current practices? The following are some initial steps (NCEA, 2012):

1. **Examine the evidence** of how many students in each grade level are on target to be ready for college and career by the time they graduate from high school. Researchers at NCEA and ACT can assist with the identification of suitable performance targets in each grade and subject.³
2. **Use the Critical Actions and rubrics** in the Core Practice Framework to do a systematic comparison of current district, school, and classroom practices with those of higher performing schools. This process can be used to identify “leverage points”—the Critical Actions where improvement is most needed.⁴
3. **Categorize current initiatives** based on the Critical Actions in the Framework to determine where each one fits. Determine which initiatives, if any, address the Critical Actions that the district has identified as leverage points. This analysis can be used to prioritize which initiatives to expand, maintain, or discontinue.
4. **Prioritize long-term improvement** over quick fixes, focusing on the sustained improvement of practices that district leaders have identified. Seek support from external constituencies so that these efforts are not derailed by the latest education or policy fad, or by changes in leadership.

By taking these steps, district leaders can make the best use of the Core Practice Framework and other resources to increase the odds that their school improvement efforts will succeed. ■

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³For example, ACT has developed College Readiness Benchmarks on the ACT® test associated with a 50% probability that a student will earn at least a B or a 75% probability a student will earn at least a C in entry-level college courses (Allen & Sconing, 2005). ACT has backward-mapped these Benchmarks to its EXPLORE® and PLAN® programs for grades 8 and 10, respectively. NCEA has, in turn, mapped the ACT Benchmarks to state test results in states with which it has data-sharing agreements, establishing college and career readiness performance targets on state tests in grades 3–7.

⁴ACT offers a number of solutions to assist with this process. For more information, see www.nc4ea.org.

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8701 North MoPac Expressway
Suite 200
Austin, TX 78759
512.320.1800
800.762.4645