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Making Effective Use of ACT's Longitudinal Assessment System

Issue Brief

May 2012

Key Findings

This report highlights an investigation of how schools are using ACT's longitudinal assessment system for student and school improvement. Primary findings suggest:

- **Level of usage does not reflect the quality of usage.** The number of behaviors reported by schools is not strongly related to school effectiveness, as measured by student growth. A promising hypothesis is that the *quality* of the implementation is more likely to lead to student and school improvement.
- **Schools aren't taking full advantage of the assessments.** Use varies considerably by activity, and the activities most likely to lead to student and school improvement are not being done by many schools.
- **School context matters—for school improvement and for understanding assessment use.** There is great variation across schools in how much these assessments are being used, and level and quality of use can be driven by contextual factors.

Introduction

Raising student achievement and improving instruction are at the forefront of new educational reforms aligned to college and career readiness. Studies of successful schools and models of effective school change abound, while schools, districts, and states emphasize instructional "best" practices through professional development activities for their teachers. Integrated, longitudinal data-driven systems have been endorsed as essential tools for use by schools, districts, and states to increase student academic achievement.[1]

ACT's longitudinal assessment system—consisting of EXPLORE® (for 8th and 9th graders), PLAN® (for 10th graders), and the ACT® (for 11th and 12th graders)—is coordinated to measure and monitor academic

[1] See, for example, the work of organizations like the Data Quality Campaign, the North Central Regional Educational Laboratory, and the Pathways to College Network.

achievement over time and to provide systematic educational and career guidance and feedback to students about career and high school course-taking plans. The scores allow students to address academic weaknesses early, increasing their chances of being ready for college and work by the time they graduate. Moreover, they provide information students can use to identify and explore prospective careers early in their high school experience.

In addition to monitoring and informing changes in achievement that occur as the result of school reform efforts, assessment data use from ACT's longitudinal assessment system is in itself a pillar of school improvement models.[2] For example, educators can use the results to identify courses that are serving students well with strong content and curricular rigor. The information can also be used to evaluate and monitor school, district, and state curricular standards against the College Readiness Standards™ or the Common Core State Standards.

Like all worthwhile pursuits, educators must commit time and energy toward getting the most out of what the assessments have to offer. How are schools using the assessments? What ways of using the results are schools engaged in more than others? Are the ways in which schools use the results most likely to lead to improved academic achievement?

ACT recently initiated a comprehensive study of how schools use our longitudinal assessment system, with the goal of providing recommendations for how ACT might better inform and encourage use by schools and districts. Detailed survey information was collected from 84 user high schools (and their feeder schools) in 14 EXPLORE and PLAN statewide adoption states. **We summarize the findings of the study in the five parts of this report. First, we describe ACT's longitudinal assessment system and the ways in which schools can use it. Second, we report on the results of the survey of school use. Third, we discuss the relationship between the number of behaviors used in schools and growth in student academic achievement. Fourth, we describe additional findings from site visits to three of the surveyed schools. And fifth, we provide implications for what schools can do next to get more out of their investment in such a system.**

[2] See, for example, the work of organizations like the Center for Comprehensive School Reform and Improvement/Learning Point Associates, the North Central Regional Educational Laboratory, the American Association of School Administrators, and the National Center for Educational Achievement (NCEA, an affiliate of ACT, Inc.).

I. Uses of ACT's Longitudinal Assessment System

ACT's longitudinal assessment system has several possible uses, and it is helpful to classify them to understand the results of the school use survey. Longitudinal assessments are typically used for two general purposes: student improvement and school improvement. As shown in Table 1, student improvement activities focus on assisting students individually, including programs and activities related to academic monitoring, planning for college, and identifying areas of need. School improvement activities focus on improving the school as a whole for the benefit of current and future students. School improvement activities include programs and activities related to curricular reforms, setting school achievement goals, and evaluating classroom instructional strategies. These purposes are not mutually exclusive: One might expect that by initiating student improvement activities with a longitudinal assessment system, school improvement activities would also occur and vice versa.

Table 1. Uses of ACT's Longitudinal Assessment System

Student improvement	School improvement
1. Assessment Awareness	**1.** Assessment Awareness
2. Dissemination/Access to Results	**2.** Dissemination/Access to Results
3. Use of Results:	**3.** Use of Results:
A. Evaluation and monitoring	**A.** Evaluation and monitoring
B. Learning and instruction	**B.** Learning and instruction
1. Identification and intervention	1. Classroom instructional strategies
C. Planning and goals	2. Curricular rigor
1. High school coursework planning	3. Alignment to college readiness standards
2. Preparation for college	**C.** Planning and goals
3. Career guidance	

Within student and school improvement, we identified three general categories of use behaviors:

1. *Assessment Awareness* includes preparing students, teachers, and parents for the test administration; these behaviors are relevant for both student and school improvement.
2. *Dissemination/Access to Results* involves providing individual student and school-level results to students, parents, and school staff, but also means ensuring that they are able to interpret the results. In this case, student and school improvement are largely differentiated by the nature of the results—student versus school-level results.

3. *Use of Results* includes three subcategories of use: *Evaluation and Monitoring*, *Learning and Instruction*, and *Planning and Goals*. The behaviors associated with these three subcategories are unique to student or school improvement and target different underlying educational processes. For example, *Learning and Instruction* in the context of student improvement involves identifying students' academic strengths and weaknesses and determining the skills to be targeted for further instruction. In contrast, *Learning and Instruction* in the context of school improvement includes classroom instructional delivery and practices, the content and rigor of the curriculum, and alignment of the curriculum to college readiness standards.

II. Frequencies of Use

For our study, level of use for each school was based on survey responses from staff members recommended by each school's principal. Surveyed staff members included core subject area department heads or teachers, counselors, assessment specialists, and other school administrators. Use percentages for each school were based on averaged responses from all participating school staff members.

Overall results

The results showed that some schools implement a large number of activities and behaviors related to ACT's longitudinal assessment system, while other schools implement very few. On average, schools reported doing just over 60% of the surveyed activities. This percentage ranged from 15% to 94%; half of the schools implemented 49% to 70% of the activities.

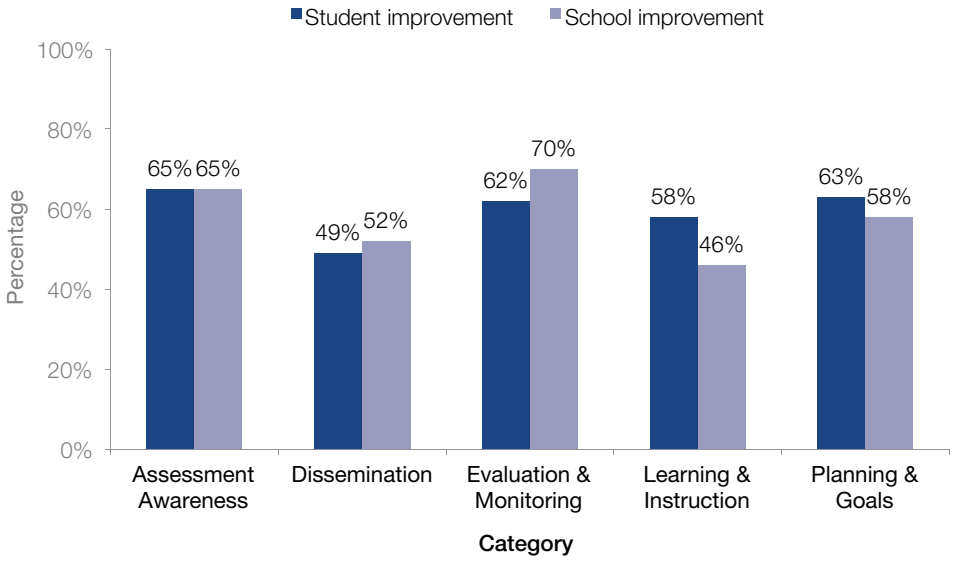
In general, assessment-related behaviors, regardless of the purpose, are less likely to be implemented with EXPLORE than with PLAN or the ACT (by 10 to 15 percentage points). Moreover, they are somewhat more likely to be implemented with the ACT than with PLAN (by about 5 percentage points).

As shown in Figure 1, over 60% of schools implement *Assessment Awareness*, *Planning and Goals*, and *Evaluation and Monitoring* behaviors associated with student improvement.[3] Less than 50% implement *Dissemination/Access to Results* behaviors and activities associated with student improvement. The only school improvement behaviors for which implementation percentages exceed 60% are *Assessment Awareness* and *Evaluation and Monitoring* behaviors. In comparison, 52% or fewer schools implement *Dissemination* and *Learning and Instruction* behaviors for school improvement. Interestingly, schools are more likely to engage in *Learning and Instruction* behaviors

[3] Percentages were averaged across all three testing programs.

associated with student improvement than with school improvement. A similar finding occurs for *Planning and Goals*, but the difference in school percentages is smaller.

Figure 1. Percentages of Schools Implementing Behaviors by Category of Use



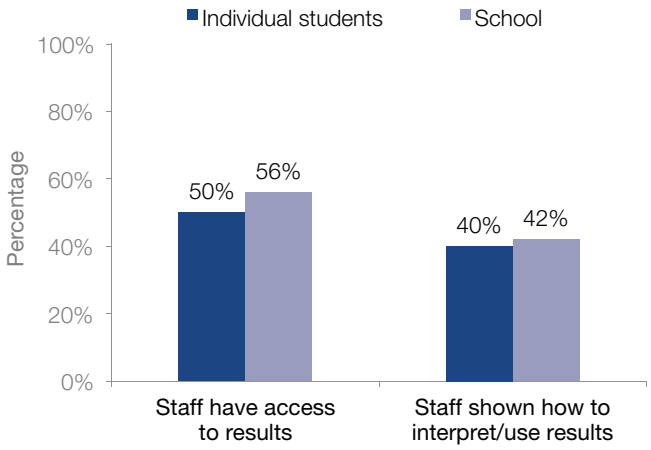
Assessment Awareness findings in detail

Further exploration of the categories of use and individual behaviors suggests that ACT's longitudinal assessment system is not being used to its full potential by schools. About 55% of schools include parents in the assessment process by informing them of the test administration, its purpose, what it measures, and how the results will be used. Even fewer schools (45%) provide the test results and interpretive guides to parents.

Dissemination/Access to Results findings in detail

Figure 2 summarizes the percentages of schools that implement two specific behaviors associated with dissemination and access to individual student or school-level results. Staff members at only about half of the schools have access to individual student results; slightly more have access to school-level results. However, staff members at fewer than half of the schools are shown how to interpret or use either type of results (40% and 42%).

Figure 2. Percentages of Schools Implementing Specific Dissemination Behaviors

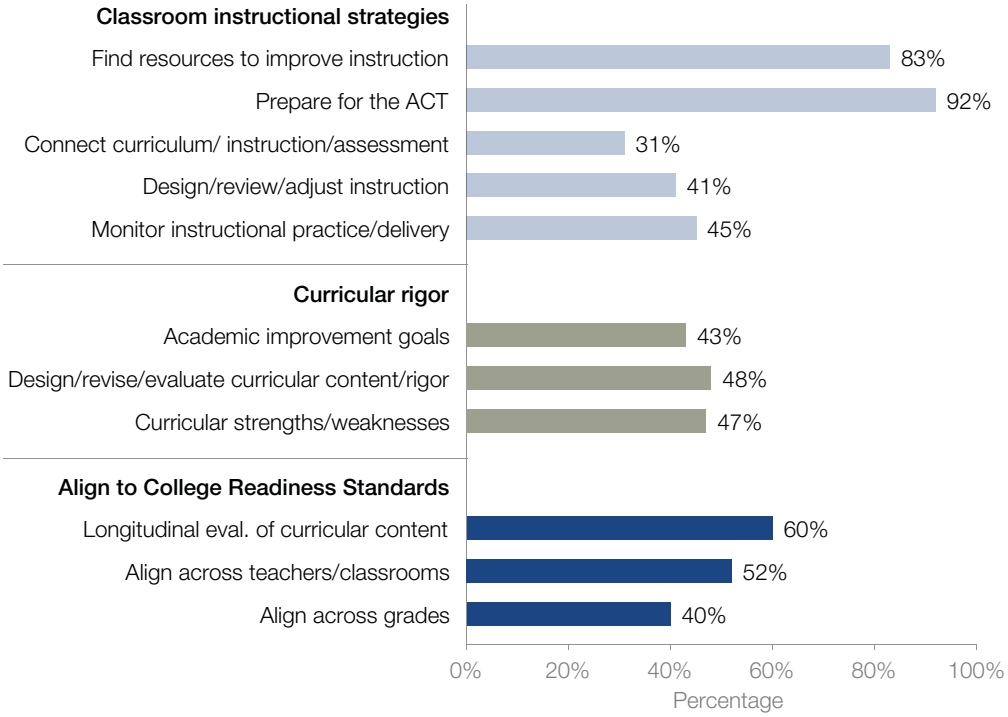


Use of Results findings in detail

Nearly 60% of schools implement *Learning and Instruction* behaviors associated with student improvement. Specific behaviors in this subcategory include making course placement decisions, matching students to resources to strengthen their academic skills, encouraging self-monitoring by students, and informing students about what they need to know and to improve on to achieve college and career readiness. Percentages of schools implementing these behaviors were fairly consistent at 60% or higher; using the results for course placement (54%) or to inform supplemental instruction (41%) were less likely to occur.

In comparison, the percentages of schools implementing *Learning and Instruction* behaviors for school improvement were consistent across *Classroom instructional strategies*, *Curricular rigor*, and *Alignment to college readiness standards* (46% to 47%). However, when examined by specific behavior, only two dominant behaviors emerged—finding resources to improve instruction and preparing for the ACT (83% and 92%, respectively). Implementation rates for the other behaviors were, in general, considerably lower (see Figure 3).

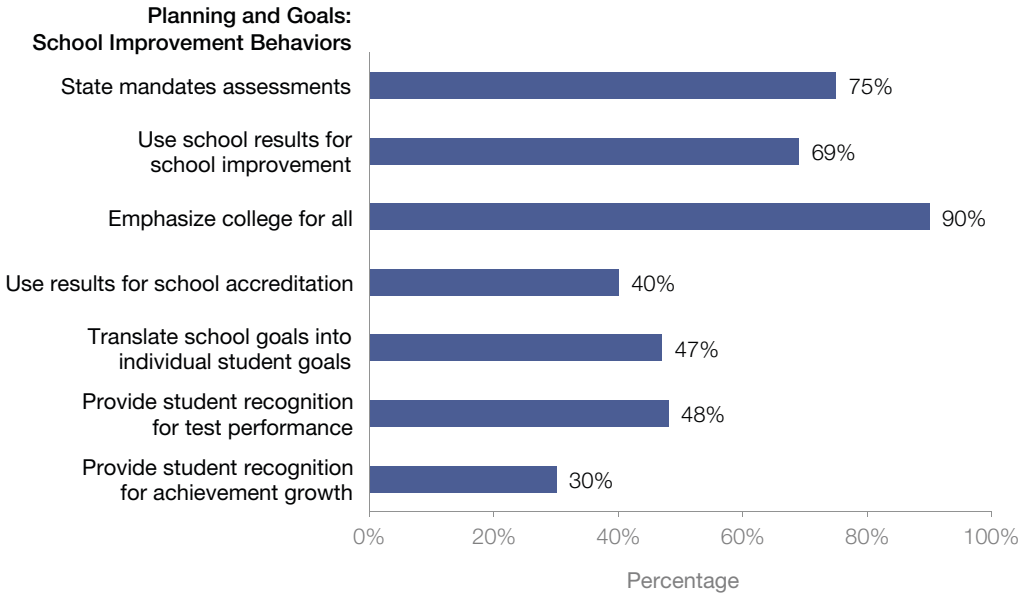
Figure 3. Percentages of Schools Implementing Specific Learning and Instruction Behaviors for School Improvement



Schools are very consistent in their use of the assessment results for student planning and goals. Across *High school coursework planning*, *Preparation for college*, and *Career guidance*, 55% to 70% of the schools implement *Planning and Goals* behaviors associated with student improvement. Schools are least likely to help students select a major, and most likely to help them explore career interests and post-high school options.

In the context of school improvement, implementation of *Planning and Goals* behaviors is highly variable. Nearly all (90%) of the schools emphasize the importance of going to college for all students (see Figure 4). Over two-thirds of the schools use their school-level assessment results for school improvement, but less than half use their results for accreditation, or translate their school goals into goals for individual students. Moreover, most schools do not recognize their students for their performance, and even fewer recognize students for their achievement growth across the tests. Of the 84 schools, 85% and 95%, respectively, administer EXPLORE and/or PLAN under state or district mandate. In contrast, only 57% of the schools administer the ACT under state or district mandate, for an overall average percentage of 75%.

Figure 4. Percentages of Schools Implementing Specific Planning and Goals Behaviors for School Improvement



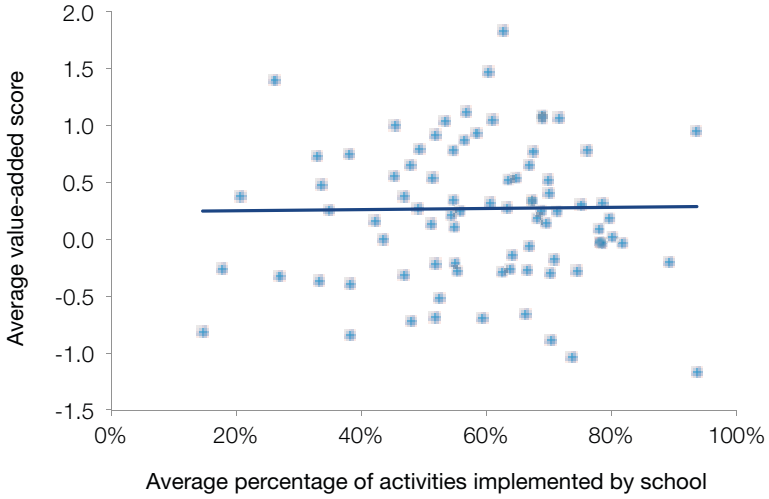
In summary, use of ACT's longitudinal assessment system for school improvement focuses on preparing students for the ACT, responding to a district or state mandate for testing, and general school improvement. Schools are more likely to use the system for *Evaluating and Monitoring* for school improvement than they are for student improvement.

Just over half of the schools use the results to gauge whether students are on target to be college ready when they graduate. The majority of schools in this study use the assessments for coursework and post-high school planning, and to improve student performance. While they understand the need for some college by all students, not all students receive an interpretation of their results, and even fewer parents see their child's results.

III. Assessment Use and Academic Growth

Using data collected from the survey, ACT researchers tested the hypothesis that implementing more assessment-related behaviors is related to greater growth in student achievement between grade 8 (EXPLORE) and the ACT. As mentioned earlier, schools differed widely in their level of use, as well as in their students' achievement growth between 8th grade and the ACT (Figure 5).

Figure 5. Average Value-Added Score by Percentage of Behaviors/Uses Implemented by Participating High Schools



As the percentage of behaviors implemented at a school increases, the average value-added score[4] from EXPLORE to the ACT increases only slightly, and the trend is not statistically significant. This suggests that simply implementing more of these behaviors does not necessarily increase school effectiveness. There must be factors at work other than the *number* of behaviors that explain the differences in effectiveness. We propose that *type* and *quality* of the behaviors, as well as other factors that affect school effectiveness, could help explain differences across schools in student growth.

Type and quality of behaviors implemented

As described in the previous section, the majority of schools, though they indicate that ACT's longitudinal assessment system is used for school improvement, do not implement those *Learning and Instruction* behaviors that might be expected to improve school achievement. In other words, the types of activities implemented by schools might be more important than the number of activities. Moreover, we hypothesize that the quality of the implementation might explain differences in school effectiveness. Quality of implementation reflects how the assessments system is implemented; higher quality requires extra effort, planning, and care taken by educators to add value to the related behaviors.

[4] A value-added model was used as a measure of school effectiveness. The model measured each school's average growth from EXPLORE to the ACT, controlling for number of months between EXPLORE and the ACT, school mean prior achievement level, school poverty level, school proportion of racial/ethnic minority students, and school size. Each school's average value-added score was calculated as the average across students and across all four subject areas.

Other correlates of effective schooling

An examination of school effectiveness research and school improvement models suggests that a longitudinal assessment system can be an important piece of the effective schooling puzzle. However, other effective school correlates—such as strong instructional leadership from the principal, high academic expectations for students, and a safe and orderly school environment that emphasizes learning[5]—are outside the realm of ACT's longitudinal assessment system. Therefore, in order to assess most accurately the relationship between assessment system implementation and student growth, researchers must account for differences in other school effectiveness correlates. A limitation of the analysis presented in Figure 5 is that other effective schooling correlates are not accounted for, which could confound the relationship between number of behaviors implemented and student growth.

IV. Use of ACT's Longitudinal Assessment System at Three Schools

From the preceding analysis, we hypothesized that the *quality* of how schools implemented assessment-related behaviors might explain differences in student achievement growth that cannot be accounted for by the *number* of behaviors implemented. To understand better how these behaviors are being implemented, we visited three high schools and one feeder junior high school from the original 84 surveyed schools. The three high schools were selected because their survey results indicated they had implemented a large number of the behaviors. However, while two of the high schools had relatively high school-level growth in student achievement, the third high school did not. In our detailed study of the three schools, we found variations in schoolwide knowledge of the use of the longitudinal system and variations in other contextual factors that could affect quality of implementation.

Variations in on-site knowledge of longitudinal system use

On-site interviews with teachers, counselors, and administrators confirmed that the numbers of behaviors implemented were generally similar across the three schools. However, actual level of use depended heavily on the staff member responding, despite the high level of use suggested by the survey results. Staff members most actively involved with the assessments (e.g., test administrators or and/or school administrators) were generally those who completed the survey. Other

[5] See Teddlie, C., & Reynolds, D. (2000). *The international handbook of school effectiveness research*. London: Falmer Press.

staff members were much less likely to implement the behaviors. None of the three schools had implemented professional development experiences to train and inform staff about using the results to inform school change or instructional practices. Thus, the survey results likely overestimate the level of school implementation of the behaviors at all three schools. It is possible that this effect was also present in the other schools in the study, which would suggest that the use percentages presented earlier are overestimates.

Issues of school context

As discussed earlier, there are correlates of school effectiveness that are outside the immediate realm of assessment systems. Factors such as staff selection and capacity building, community engagement, and clarity and prioritization of academic objectives seem to be beyond the direct scope of influence of a longitudinal assessment system, regardless of how well it is implemented. However, these contextual factors do seem to shape how the system is used.

Contextual differences were evident in the three school visits, and were reflected in the level of implementation at each school. For instance, one school with community pressure to improve learning for all students lacked the time to implement comprehensively the behaviors most directly tied to learning (e.g., student intervention, curriculum review and revision, alignment of the curriculum to college readiness standards). Similarly, goals and initiatives at the same school placed a greater emphasis on passing the state accountability assessment than on college readiness, due to their poor AYP status. Three important contextual factors also differentiated the two higher achievement growth schools from the lower growth school:

- Staff members at the two higher growth schools emphasized and had a greater knowledge of ACT's College Readiness Standards and the Common Core State Standards than the low growth school. Moreover, there was a greater overlap between local, state, College Readiness, and Common Core standards at the two schools than at the third school.
- In the two schools, explicit opportunities existed for collaboration and discussion among high school teachers and between high school teachers and teachers from feeder schools. The latter opportunities included vertical curricular alignment activities.
- The district configuration of the two higher growth schools facilitated communication with feeder schools, while the configuration of the third school appeared to impede communication with feeder schools. The two schools were within K–12 school districts, while the third high school was in a different district than its feeder schools.

To understand better the relationship between implementation of individual school behaviors and achievement growth, consideration must be given to the context in which the longitudinal assessment system is being implemented. As noted earlier, doing more does not necessarily make things better. Cultivating an environment of communication, collaboration, and a common focus on college readiness and rigorous content standards is also important. ACT's longitudinal assessment system alone cannot replace these or other important factors, but it may be used as one of the tools for school improvement and as a measuring stick for progress. A further consideration is whether the school is using any other assessment systems for the same purposes as those for which the ACT system is intended. In this case, the school would likely benefit by reducing duplicative efforts and streamlining the assessment system.

V. What Can Schools Do Now?

The benefits of implementing ACT's longitudinal assessment system do not depend on the number of behaviors and activities that schools implement. They are more likely to depend on the quality of the behaviors and activities, the purpose(s) for which the system and related behaviors are being implemented, and the context in which they are implemented. As we noted earlier, those behaviors that might be expected to have the greatest impact on school and student improvement are those that are less likely to be implemented by schools.

ACT is continuing to examine uses and behaviors associated with the implementation of our longitudinal assessment system. We are also working to provide greater guidance and support to schools on effective implementation of the assessment system, particularly for all uses and behaviors related to school improvement, and those related to dissemination of results and use of results for evaluating and monitoring individual students.

Schools can also take immediate steps to ramp up the quality of their implementation and maximize its benefits:

- Examine Table 1 and identify those areas in which your school might make more or better use of your assessments and related results.
- Identify the uses that are working well in your school and disseminate those practices throughout the school.
- Develop and implement local professional development for administrators, test specialists, counselors, and teachers to help them use the results to inform school and student improvement.

- Have all core staff members involved in implementing the assessment system, including having access to and the ability to understand, interpret, and use the results to inform student and school improvement.
- Use the Core Practice Framework[6] to examine larger school effectiveness issues and develop recommendations for reform.

An important step in implementing these recommendations is to remember that more is not necessarily better. Any longitudinal assessment system needs to be implemented with a clear understanding of its intended purposes, and to involve appropriate educators, parents, students, and others who are responsible for school and student improvement. It also needs to include the development of institutional approaches to build on specific successes, and the use of information to take consequential action.

[6] The Core Practice Framework provides a comprehensive approach to school improvement, going well beyond the scope of assessment practices. It provides both *structure*, a way of categorizing those educational practices that distinguish higher performing schools from others, and *content*, a collection of information on the practices themselves. The Framework is built around five themes that need to be addressed in order to improve teaching and learning, and cuts across district, school, and classroom practices. For more information, see: http://www.nc4ea.org/index.cfm/e/core_practice_framework.

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