

**Connecticut's Initiative to Support a Comprehensive Assessment System:  
Guidelines for Implementing Formative Assessment at the District Level**

Barbara Q. Beaudin, Ed. D.  
Bureau Chief  
Bureau of Research, Evaluation and Student Assessment  
Connecticut State Department of Education  
Hartford, CT  
(barbara.beaudin@ct.gov)

Maria-Paz B. Avery, Ph.D.  
State Liaison  
New England Comprehensive Center  
Education Development Center, Inc.  
Newton, MA

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# **Connecticut Initiative to Support a Comprehensive Assessment System: Guidelines for Implementing Formative Assessment at the District Level**

## **Introduction**

The Connecticut State Department of Education (CSDE) has begun an initiative focusing on formative assessment. The purpose of the assessment initiative is to provide districts with support as they establish comprehensive, balanced and coherent standards-based systems of teaching, learning and assessment. Furthermore, this initiative strives to move the state toward the goal of not only having all students proficient by 2014, but also increasing the proportions of students scoring at the goal and advanced levels on state tests and improving the state's relative performance ranking on nationwide tests such as the National Assessment of Educational Progress (NAEP), Preliminary Scholastic Aptitude Test (PSAT), the Scholastic Aptitude Test (SAT) and Advanced Placement tests.

This document (1) outlines the state context for assessment; (2) defines formative assessment; (3) describes the state's beliefs about the importance of a coherent system of assessment; (4) identifies the prerequisites that districts need to have in place for the successful implementation of a formative assessment program; (5) explains why it is important to focus on the formative use of assessment; and (6) concludes with state initiatives.

## **Connecticut's Assessment Context**

Connecticut has a long history of administering statewide assessments to gauge students' progress toward meeting the state's challenging academic performance standards. The Connecticut Mastery Test (CMT) was first administered in 1986 and is now in its fourth generation assessing students' skills and knowledge in mathematics, reading and writing in Grades 3-8. Beginning in 2008, science will be assessed in Grades 5 and 8. The Connecticut Academic Performance Test (CAPT), which was first administered to Grade 10 students in mathematics, science, reading and writing in 1995, is entering the third generation in 2007. In 2006, the CSDE also developed grade-specific Skills Checklist assessments, which are aligned with grade level content but based on alternate achievement standards, for the most severely cognitively impaired students enrolled in Grades 3-8 and 10 for mathematics and English/language arts. The CMT, CAPT and Skills Checklist are the foundation for the state's accountability system under the No Child Left Behind (NCLB) Act for determining whether schools and districts are making adequately yearly progress (AYP) toward all students achieving proficiency in mathematics and reading by 2014.

In addition, most high school students in the state take the PSAT and the SAT in preparation for postsecondary education. Finally, Connecticut participates in the NAEP and samples of students in the state's schools are assessed annually in Grades 4, 8 and 12

in a variety of disciplines to provide state-level data on how well the state's students measure up to students in other states across the country.

The assessments just described are used for "summative" purposes. They are administered annually and provide a snapshot of the extent to which some level of student learning has taken place. These assessments can provide valuable information to guide program improvement and monitor group progress. The results of these tests can be used for accountability purposes, to identify which schools and districts need to improve their instructional programs, and to sort students by the level of knowledge they have attained.

Within schools and classrooms, teachers conduct a range of instructional assessments periodically or on a daily basis to measure their students' progress in meeting local performance standards. These include informal and formal "formative" assessments that are components of curriculum and instruction. They are designed to inform teachers and students of the progress being made during instruction to determine if interventions need to be made to improve student performance. These can include carefully crafted questioning, embedded instructional tasks, mini "quizlets," or more formalized periodic assessments such as "common" and "benchmark" assessments. Common assessments may be administered on a weekly basis during a unit of instruction within grades or courses, and grade level benchmark assessments may be administered every six weeks or at the end of each quarter of the year. These assessments are aligned with local and state standards and administered at prescribed intervals during the school year. Some districts in the state already have begun to develop assessment systems that incorporate these various types of formative assessments.

Current research suggests that a comprehensive system of formative and summative assessments can be a powerful tool in driving curricular and instructional improvements as well as monitoring individual student progress toward mastering specific standards in the content areas.

### **What is Formative Assessment?**

Formative assessment is anything that teachers and students do to find out what the effects of an instructional program are on learning in order to make adjustments in the teaching and learning process that will lead to improved student learning. For assessments to be formative, therefore, they must be administered during the course of instruction, the results must be analyzed and the findings must be used to direct further action on the part of the teacher and/or student.

Many teachers are now incorporating formative assessments into their teaching, using the results to determine which students need further assistance or for flexible grouping to differentiate instruction. These assessments provide teachers with data to identify instructional strengths and weaknesses. However, for formative assessment to be a significant factor in systematically and systemically raising and sustaining the

achievement of all students, its use must be coordinated and consistent within a district and across schools, reflecting the district's commonly shared standards.

Formative assessments are ongoing classroom-based assessments that are integrated into the teaching and learning process. Common and benchmark assessments can be formative if they are administered regularly to assess student learning as part of the teaching and learning process. They are formative when the results are used for the purpose of providing timely and detailed feedback to students, teachers and parents on what has been learned within a specific instructional unit, at what level of understanding, and where the gaps in learning exist. As a result, teachers, students and parents are able to consider and plan adjustments to instruction, provide appropriate and timely interventions, and/or advise on the deliberate actions that are needed to improve performance.

Schoolwide common assessments are assessments that are tied closely to the curriculum being taught. They are constructed locally by grade level or course teams of teachers, aligned to the grade level standards and incorporated into the curriculum materials being used.

Benchmark assessments cover a specified portion of the grade level curriculum for the year. While they are administered multiple times during the year to ensure that students have retained what they learned earlier, but less frequently than the common assessments. The results can be used for multiple purposes including instruction (i.e., formatively), to predict how well the student is progressing toward meeting performance standards on the yearly high-stakes test or for program improvement.

### **Connecticut State Department of Education's Core Beliefs About Formative Assessment**

When discussing formative assessments, it is important to note there is a distinction between "standardized tests OF learning" (summative) and "classroom assessments FOR learning" (formative). Assessments OF learning "verify arrival at success." Assessment FOR learning "informs instructional decisions along the way to success" (Stiggins R. 2006). Formative assessment is an ongoing instructional activity, not merely a testing tool, through which teachers learn more about their students' learning in order to adjust teaching and students learn to self-monitor their progress toward achieving the established standards. The process of formative assessment provides a vehicle for teachers to collectively focus on student work in learning communities and data teams to improve their craft as instructional leaders and motivates students to continue their work to learn.

The CSDE believes there is a direct connection between formative assessment and state assessments. The effective use of formative assessment can improve achievement of state standards and, as a result, increase the performance of all students on the state test. The national, state and local assessments administered to Connecticut students are not discrete but should be viewed as part of the comprehensive assessment system. These

assessments should be used to support teaching and learning within each district across the state.

As a result, districts must design a comprehensive system that will be accessible to all students, tap their knowledge and skill levels through a variety of means, and promote increased learning for all students including those who have the largest academic challenges as well as those with the greatest talent. For a comprehensive educational system of curriculum, instruction and assessment to be successful, all stakeholders (state, district school committee, superintendent, central office staff, building administrators, teachers, students, parents, non-teaching school staff) must acknowledge their differentiated roles for implementing and monitoring the system. They must also take responsibility for working collaboratively to improve the performance of all students in their district.

### **Elements of a Formative Assessment System**

The research on teaching and learning indicates that well-designed formative assessment programs are central to improved student performance. A formative assessment program within a comprehensive assessment system includes several essential elements.

In effective programs, assessments are based on a shared understanding of the standards that need to be met within a specific grade level following a defined sequence. Formative assessment is seen as an integral part of the teaching-learning process. Results are available in a timely manner and provide detailed feedback to students and teachers on the strengths and weaknesses of each student in the learning of specific standards; timeliness means that the results of the assessment are available while there is still time to improve instruction for the students who were assessed (Popham, 2006; Black and Wiliam, 1998).

Teachers use assessment results to make adjustments to their teaching or to search for a different teaching approach that will meet a child's needs better (Guskey, 2003); by students to determine what they need to do to improve; and by parents to understand how they can support their child's continued academic growth. Students have additional opportunities to be assessed and show success after having received "corrective" instruction or guidance (Guskey, 2003). Finally, in effective programs, schoolwide and districtwide common and benchmark assessments are administered in the classroom at regular intervals.

### **Prerequisites to Implementing a Formative Assessment Program**

Before implementing a formative assessment program, districts need to ask themselves what they need to put in place for the program to meet the promise of raising student achievement for all students within a school and across a district. The process of implementing an effective formative assessment program requires sustained commitment over time and a readiness to examine data, question, reflect, learn, take action and then examine more data, question, reflect, learn, and take action once again. The prerequisite

conditions identified in this section suggest how districts can begin to build an infrastructure that will support and sustain a district-wide formative assessment program. It should be noted however, that these prerequisites are highly interrelated and need eventually to form a coherent, comprehensive infrastructure.

**1. Build a clear vision, at the district level, of quality assessment as an integral and essential part of the teaching and learning process, tied to clearly defined standards.**

Developing and implementing a districtwide formative assessment program will require a commitment on the part of the district leadership, including the school board, that will be extensive and intensive. This initiative is one that will be characterized by a willingness to make honest appraisals of the current status of teaching and learning practices across the district, to take risks and assume the possibility of missteps and false starts, and to make some hard decisions over an extended period of time. This initiative will not happen overnight and is one that will continue to change and evolve.

Given all this, the success of instituting a formative assessment program at the district level will take committed leadership from district administrators who are willing to develop a solid understanding of what quality assessment looks like, who are willing to increase their knowledge of assessment literacy and the principles of sound classroom assessment. District level instructional leaders must be prepared to take on the following assessment responsibilities: (1) plan a district-wide assessment program and oversee its implementation at the building level; (2) supervise and evaluate the assessment competence of building administrators and teachers, offering the professional development and other resources that are needed for implementation; and (3) serve as the defender of the program and communicator about results with key community stakeholders (Stiggins, 1997).

**2. Create a culture in which all stakeholders see themselves as accountable for student learning and achievement, and in which holding each other accountable is valued and expected.**

The culture of a district or school is manifested in the attitudes, beliefs and behaviors that are commonly shared and enacted by its members. For the most part, the most potent attitudes and beliefs are those that are not openly stated or written, but, rather, those that influence the behaviors and interactions among people: between teachers and students, administrators and teachers, teachers and teachers, teachers and parents, administrators and students, and so on. We often get a sense of the culture of an organization from what we are told is “the way we do things around here” (Dufour, 2004) or conversely, “that’s not the way we do things here.” Sometimes, expectations about what is acceptable or not are

reinforced by policy, but policy is only as good as its translation into day-to-day practice.

Studies of improved districts show that the culture of a district or school is shaped to a large extent by those in positions of leadership and the norms of behavior that they expect of themselves and others. Effective leaders in improved districts “work to develop and nurture a culture that supports accountable, collaborative professionalism among the stakeholders responsible for the education of its children and create a climate of trust, mutual respect and collegiality (NECAC, 2005).

In 2005, the New England Comprehensive Assistance Center defined what the characteristics of such a culture are. According to the center, “the literature suggests that there is:

- A collective focus on what is best for the student coupled with high expectations
- Shared responsibility across the district for the success of each child and each school
- Affirmation of professional autonomy with accountability for results
- Clear and collaborative relationships with an acknowledgement that “working together takes work”
- A spirit of inquiry, risk taking, and reflective practice that encourages professional exchanges and dialogue with a willingness to try new things to meet the specific needs of all students
- Regular, meaningful communication that is “receptive and responsive” across all stakeholder groups and that incorporates dissenting or minority view points (McRel, 2003)
- Commitment to change with recognition that changes in practice require steady and persistent work
- A shared understanding of the basic beliefs, values, and goals that guide the work of education

And especially,

- Congruence between what is said and the significant values and beliefs that guide the work of education and the actions that are taken.”

### **3. Develop core beliefs about teaching, assessment and learning that are shared by all.**

If formative assessment is to become a driving force for learning in the classroom, then the core beliefs about teaching and learning that are in place in a district or school must be closely examined to see whether they support the premises of effective formative assessment. Foremost, the nature of teaching must be questioned. As Black and Wiliam (1998), Wiggins and McTighe (1998) and Wiggins (2005) state, schools and districts must ask themselves: Is teaching seen as a one-way transmission of information from teacher to student or is teaching

seen as an interactive, iterative process between teaching and learning in which the roles of teacher and learner are often interchanged? Is there a belief that each child has the potential to learn and that it is the teacher's responsibility, with the support of others in the system, to find ways to diminish the obstacles, whether cognitive, emotional or motivational, to learning for that child? How are the intersections between curriculum, instruction and assessment defined? Are they seen as separate events or as integrated aspects of a single process?

A positive assessment environment needs to be built on the following core beliefs and practices:

- **Keep the focus on the student and on learning.** All decisions should be measured against the answer to the question “How will this lead to student success and improved learning?” Current practices, at both the district and school levels, should be questioned and new possibilities examined with this question in mind. At the district level, for example, policies, procedures and expectations should be analyzed in terms of their implications for the day-to-day practice in schools and classrooms by asking the question, “Will this (policy, procedure or expectation) hinder or support learning in the classroom?”
- **All students have the potential to learn and achieve to meet high standards if they are given the supports to succeed.** For too long, the testing environment in schools has served only to reinforce the notion of natural ability through the awarding of grades with no useful feedback to guide the student toward improvement and success. Formative assessment has the potential to break this negative cycle of failure by showing students where they need to focus and, most importantly, what they need to do to improve, and then providing them with the services/interventions that will support them as they take the steps to improve.
- **Students are motivated to learn when they are able to assume responsibility for their own continued learning.** The seminal report on formative assessment written by Black and Wiliam (1998) clearly highlighted the powerful motivational aspects of formative assessment information when used in a positive way with students. For the longest time, students have been exposed to testing that compares them against each other, grades and ranks them, and serves as the arbiter of rewards and, at times, humiliation. Formative assessment information, on the other hand, when used effectively provides useful feedback to students about the qualities of their work in relation to a standard that they have to meet. Having a clear picture of the “standard” they are working to achieve and understanding where they are in relation to the standard, coupled with advice and support to meet the standard, is central to empowering students to take control of their own learning. In this respect it is important to

separate testing in order to assign a grade from assessment to improve learning (Popham, 2006).

- **Curriculum, instruction and assessment are interrelated aspects of the teaching and learning process.** In the words of Wiggins and McTighe (1998), “teachers are designers of curriculum and learning experiences” (instruction) for students to achieve the desired goals (standards) of education. In addition, they state, “Teachers are also designers of assessments” that “operationalize” the achievement of these standards in terms of the evidence that will tell them the extent to which these goals – the desired understandings and proficiencies – have been achieved. All three aspects of the teaching, learning and assessment process need to work in concert in a way that makes clear what students should know and be able to do. Together they provide the kinds of experiences that will maximize opportunities for the student to understand what they need to know and practice what they need to be able to do. Finally, they provide the evidence of what students have learned, at what level, and, when needed, the steps they must take in order to meet the desired goal.
- **Collaboration and collective responsibility are essential for continual, districtwide and schoolwide improvement.** Districtwide improvement such that each child has the opportunity to achieve and succeed requires that all involved in the education of the district’s children work together constantly and relentlessly. All individuals in the system, whether administrators, teachers, staff, students or parents, need to see themselves as responsible for the success and the achievement of excellence not only for themselves but also for each other. The focus on each child requires that every adult in the system takes responsibility for every child. There can no longer be an underlying belief that “if that child is not in my classroom, I have no responsibility for that child’s success.”

Recent studies on teacher behaviors have shown that the most effective form of professional development that has the greatest impact on student achievement is teachers collaboratively and regularly looking at student work and engaging in honest examination of their own and each others’ teaching practice in order to inform their professional growth (Schmoker, 2004; Fullan, 1991; Little, 1990). In these collaborative “teams,” all professionals who affect a child’s education need to be included – e.g., special education teachers, teachers in ELL programs, specialists, as well as parents.

- **Data that provide evidence of student learning are an important resource to help guide instruction and other decisions.** Data collection, analysis and use have become the cornerstone in the current environment of educational reform and improvement. It is of great importance to remember that, “Data acquires meaning only through

interpretation” (NECAC, 2005). But for the interpretation to be well informed, educators must be able to use the data to clearly and factually describe the current status of learning. This means that the users of data need to understand both the benefits and the limitations of data, see data as a means to describe the evidence that corroborates perceptions or dispels myths, and use this evidence to stimulate discussion of what should be. Too often, uninformed users of data jump to making conclusions without first looking closely at what the data say, leading to conclusions based on previously held beliefs rather than on the evidence. To avoid this common trap, it is important for the users of data need to develop skills in looking at data description (stating what you see in the data) and the data interpretation (drawing conclusions from the data) processes. In addition, it is important for the users of data to develop skills in “talking about data” as stimuli for dialogue and discussion to make decisions for continued instructional improvement and professional growth (Bernhardt, 2003).

Districts and schools that effectively use data to guide their planning and improvement efforts understand that improvement is an ongoing and iterative process. Data on student performance can provide the impetus for improvement efforts by generating a sense of urgency. The next step, however, is understanding why student performance results are the way they are. To understand the “why” of student performance requires an ongoing inquiry approach of “digging deeper” into the data and asking additional questions: Why are we getting the results we are getting? Why are some students doing well and others not? Why is a program or instructional approach working for some students and not for others? Answers to these questions can provide guidance in choosing the types of approaches that would be most appropriate and effective for students in general, specific subgroups of students and individual individuals (Preuss, 2003).

#### **4. Develop a clearly articulated districtwide curriculum aligned with the state performance standards.**

Formative assessment loses its power to systemically increase student achievement on state and national assessments if it is not tied to a districtwide curriculum that is aligned with state standards. A well-articulated districtwide curriculum – one that has a scope and sequence across grade levels, along with a guide for pacing teaching – and that reflects the state standards, serves as the foundation for the teaching-learning process. Standards identify the key concepts and skills that all students need to understand (content standards) and how well they are expected to perform (performance standards) (WestEd, 2004). Teachers within and across grade levels need to know and understand what the expected outcomes are for their students (horizontal articulation), how these standards connect to the scope and sequence of standards for the previous and following

grade levels (vertical articulation), and what evidence is required to show that a child has mastered those standards. Each teacher needs to be able to see where his or her part fits in the whole picture of a child’s educational journey from kindergarten to graduation from high school and even beyond. In addition, teachers need to “own” or internalize this curriculum so that it becomes the foundation on which their unit plans are based – in other words, for them to “enact” the curriculum on a day-to-day basis.

Why are standards the foundation? Standards represent “the desired results.” Without having a clear picture or focus about what is important, neither teachers nor students know where they are headed and, therefore, cannot make adjustments to keep themselves on track. By knowing the standards, teachers have the information to determine what kinds of conceptual experiences and opportunities for practice students need to have to achieve the desired outcomes. Assessments that are tied to these standards and shared with students can then provide the evidence of learning as well as guidance to improve performance (Wiggins and McTighe, 1998).

Rigorous state standards in the different content areas encourage the development of more demanding and higher quality curriculum at the local and district level. At the same time, there is a growing recognition that districts may need to make choices about which standards matter most in their community and essential for future learning, given the often lengthy set of standards in each content area at each grade level. Often called Power Standards, a term first introduced by Douglas B. Reeves, it refers to a “process whereby educators *prioritize* the content and performance standards for a given subject matter in terms of their endurance, leverage, and ability to prepare students for readiness at the next level of learning.” Such commonly shared “power standards” provide focus, coherence and cohesion to the instructional program at the district and school level across all grade levels, and all programs. They define essential desired outcomes for all students, irrespective of their individual or group characteristics, whether they are special education students or English language learners and whatever their socioeconomic status, gender, ethnicity/nationality or other circumstance may be, thereby leading to higher expectations for all students.

##### **5. Provide the necessary time and structures as part of the school day to support collaboration among teachers and staff.**

There is no question that the implementation of a district-based, schoolwide formative assessment program will require an examination of how time is allocated during the school day, for what purposes, and what structures need to be in place to fully support this initiative. As noted earlier, the effective use of formative assessment for increasing student achievement requires teachers to work collaboratively and look at student work and assessment data. By engaging in discussions about and “experimentation” with different evidence-based

teaching practices they can begin to identify and select targeted interventions and to build a collective sense of responsibility for the success of each child.

Working collaboratively takes time – time to agree on commonly held power standards, time to look at the data and evaluate students’ work, time to plan together, time to consider what adjustments need to be made, time in the schedule to implement the types of interventions that will be most useful to students, time to be able to teach to the depth that is needed for student success, and time to reflect and enhance one’s professional growth.

Working collaboratively also requires the creation of established structures to support the work – e.g., grade level meetings, cross grade meetings, blocks of teaching time that allow for in-depth coverage and content application, set periods for districtwide or schoolwide assessments to take place, whole school meetings to build ownership across all constituencies.

The time and the structures that are needed cannot be left to the discretion and goodwill of individuals. They need to be embedded into the school day and become part of the routine of “the way we do business here,” in other words, part of the culture. For this to happen, the district has to create the expectation and monitor its implementation, working with the union and the contract-negotiation process to ensure that the commitment of time and the structures for collaboration are given their due value.

## **6. Provide necessary resources to support the focus on instruction.**

While time and collaborative structures are essential to the effective implementation of a formative assessment program that is integrated into the teaching and learning process, other resources must also be considered. For example, how can other staff at the school – paraprofessionals, specialists, office staff, lunch monitors, etc. – contribute to the education of the children in the school? Can teachers be freed from administrative duties in order to allow them to focus on their instructional responsibilities? What contributions can members of the larger community, support service organizations, businesses and law enforcement agencies make to the effective and efficient operation of the educational program?

**Technology** is key among these additional resources. A central role of technology in formative assessments is to make the use of teachers’ time more instructionally productive and efficient. One of the biggest obstacles to the effective use of formative assessment is the time required for teachers to develop, administer and score them. However, with the current proliferation of online resources – from item banks tailored to state specific standards, to software for the administration, scoring and analysis of test results – the possibilities for rapid feedback are many.

The use of technology can offer several advantages. These include allowing more flexibility in the timing and location of the assessment, providing easy customization of assessments and returning results in real time with data easily aggregated or disaggregated at multiple levels. Technology can introduce unintended outcomes as well, such as eliminating the interaction between the student and the teacher thereby losing an important source of valuable information, reducing the reliability due to too much customization, and requiring additional teacher time to learn how to use the technology effectively.

The challenge, at this point, is finding the system that meets the goals of a specific district and its schools best and is flexible and responsive to changing demands.

## **7. Offer ongoing professional development for all stakeholders.**

While this is the last prerequisite on the list, it is not by any means the least important. For a fully integrated formative assessment system to work, professional development opportunities for all stakeholders have to be ongoing and targeted. The professional development referred to here is not about discrete workshops only to increase the content knowledge of educators. Instead, it is about creating a learning community in which all stakeholders are responsible for their own and each others' continued professional growth, in which professional growth occurs within a cycle of doing and reflecting on one's practice in the company of others, and about learning new skills that in the past have not been part of a teacher's "toolkit." Assessment literacy and engaging students as active learners are two new skills that will be needed to support this new approach to teaching and learning .

An often neglected aspect of leadership development and teacher preparation is assessment literacy. According to Ainsworth and Viegut (2006, p.53), assessment literacy "is the ability to understand the different purposes and types of assessment in order to select the most appropriate type of assessment to meet a specific purpose." Teachers have always used a variety of assessment and testing methods in their classrooms from very informal methods such as questioning to more formal methods such as multiple-choice quizzes. However, as the more complex learning standards have become better articulated and as accountability systems have become more formalized, it has become imperative for teachers to develop a richer and broader repertoire of assessment practices for specific purposes. Ainsworth and Viegut (2006) suggest that teachers be able to answer the following questions, questions that require knowledge of sound assessment principles and an understanding of how to use the results of specific assessments:

1. What kind of assessment results will help me determine with confidence that my students are proficient with regard to the standards addressed in my instruction?

2. What are the different ways I can offer my students to demonstrate what they know and can do?
3. What types of assessments can I use to provide me, the student, and others with evidence that is credible?

If students are to become active participants in their own learning, they need to become active consumers of their assessment results. Students as active participants in the learning process will require changes in the practice of teaching and changes in the teacher-student relationship. In the same way that teachers will need to engage in professional development activities that will support them in re-examining the nature of teaching, so, too, will students need to engage in their own professional development as active learners and self-assessors. They will need to understand how to interpret the results of their assessments and be provided with guidance on how to take control of their own learning.

Depending upon their prior knowledge and experience, educators may also need to develop some or all of the following skills:

- **Group membership and facilitation skills:** In this system of comprehensive, districtwide and schoolwide formative assessment, isolated practice behind the four walls of the classroom will be a thing of the past. Common assessments will require teachers collaborating in grade-level and cross grade-level teams, thus reducing isolated practice. Teachers will need to develop those skills that contribute to the effective conduct of meetings and the creation of communities of trust.
- **Item development skills:** Items that provide valid and reliable information are an essential component of a formative assessment system. Educators will need to be able to understand and have practice in developing standards-based assessment tools specifically designed to diagnose student needs and to monitor progress.
- **Data analysis skills:** Beyond item development, educators will need skills in analyzing, interpreting, talking about and using data to diagnose learning needs and instructional weaknesses accurately, and to plan effectively improvements to teaching and learning
- **Technology skills:** Appropriate technology and educators' ability to capitalize on its use will be an aid to instruction and assessment, and optimize the use of classroom time.

### **Why the Focus on the Formative Use of Assessment Results?**

The achievement of students is most directly affected by what happens in the classroom through the interaction of the teacher and students in the teaching and learning process. There is now consistent and firm evidence that the effective implementation of formative assessment in the classroom is a key factor in raising student achievement. In a seminal

review of the existing research on formative assessment, Black and Wiliam (1998) found that “innovations that include strengthening the practice of formative assessment produce significant and often substantial learning gains. These studies range over age groups from 5-year-olds to university undergraduates, across several school subjects, and over several countries.” They also found that in many of these studies, “improved formative assessment helps low achievers more than other students and so reduces the range of achievement while raising achievement overall.” Another study they cite, focusing entirely on low-achieving and students with learning disabilities, found that “frequent assessment feedback helps both groups enhance their learning.”

Black and Wiliam (1998) warn us, however, that the research on formative assessment also points to the fact that implementing a program of formative assessment is not as easy as it seems. Formative assessment works most effectively when it is practiced as part of a coherent, systemwide approach to teaching and learning. Thus the research raises a number of issues that need to be addressed simultaneously. For example:

- Are there commonly shared understandings of what students need to know and be able to do (standards) at different points in the educational system?
- Are teachers and administrators willing to work together to make adjustments or changes in existing processes and structures to better meet the academic needs of each student?
- Is there a belief, or at least, an openness to the belief, that all students have the potential for learning and that sharing formative assessment results can help all students become actively involved in their own learning?
- What changes in classroom practice need to occur? Have teachers moved from the transmission and coverage approach of teaching to one that recognizes the “indivisibility of instruction and formative assessment” in the learning process?

## **Conclusion and State Initiatives**

The development and implementation of a formative assessment program at the district level cannot be left to chance. There has to be strong district leadership that understands and believes in the power of sound assessment practices and sets an expectation of assessment quality in its construction and use. The seven prerequisites outlined earlier provide a structure that districts may use to gauge the readiness of their schools and teachers to move from the more traditional use of assessment “of” learning to assessment “for” learning.

The Department has initiated two formative assessment pilot programs to facilitate and support districts’ work toward developing formative assessments as a component of their comprehensive assessment system. The first is a Grade 3-5 mathematics pilot project, which began in 2006 when the Department convened a Formative Assessment Advisory Committee consisting of teachers, specialists and administrators from districts across the state and staff from the University of Connecticut’s (UCONN) Neag School of Education. Their charge was to frame how formative assessments could complement

state mandated summative assessments in order to improve teaching and learning across the state. Concurrently, an internal CSDE Steering Committee was formed to begin developing model formative assessments for statewide dissemination.

The advisory and steering committee members are working on several tasks. These include establishing guidelines put forth in this document for formative assessment as a component of a cohesive and comprehensive assessment system; creating an item bank of high quality items; identifying vehicles for delivering professional development and establishing an online delivery system. Seven schools districts are currently partnering with CSDE on this pilot project to build district-specific formative assessments for mathematics in Grades 3-5. Prototype model formative assessments will be developed during the summer and disseminated during the next school year.

For the second initiative, the Department is partnering with the Council of Chief State School Officers (CCSSO) and eight other states in receipt of a federal grant to improve teaching and learning in high poverty secondary schools. Each state established a team that has been trained by Richard Stiggins from Educational Testing Services (ETS) in “Classroom Assessment for Student Learning.” The teams from each state will work with a small number of high schools to develop formative assessment systems that can serve as national models for the effective use of formative assessment. The Department is planning pilot program working with two district teams of high school mathematics and science teachers to support their development of formative assessments for their Algebra I and their ninth grade science courses. The support will include providing materials for the teams of teachers in the district as they train in “Classroom Assessment for Student Learning.” They will also receive training in conveying standards to students through rubrics, developing formative items and tasks, empowering students as self assessors of their own work and differentiating instruction to respond to the information formative assessments provide. The pilot will begin in April 2007 and conclude in June 2008.

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