Strategies for Improving District-Determined Measures in the Academic Content Areas:

Guidance for Using the Holistic Evaluation Approach to Measure Student Growth

June 6, 2014
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Introduction: Purpose of This Guidance Document

Educators and administrators engaging in the selection and/or development of district-determined measures (DDMs) have been challenged with answering a key question about their emerging DDMs: Does this measure detect some type of change in performance that can be attributed to student growth? In a key resource developed to support districts with this challenge, the Massachusetts Department of Elementary and Secondary Education (ESE) explains why it is so important that a DDM measure growth:

Students come to school each year with a wide range of prior academic achievement and therefore begin their next year of instruction with varying levels of readiness to access the curriculum, a situation that is beyond the control of the educator assigned to teach them. Measuring educators’ effectiveness solely by the achievement level of their students cannot account for these prior conditions. By comparison, measuring growth can help level the playing field. Improvement in student performance is a more meaningful and fair basis for determining the trends and patterns that will yield the educator’s rating of impact on student learning, growth, and achievement. (p. 8)

One strategy for supporting DDM developers in Commonwealth districts with this challenge is to provide concrete examples of open-source, locally developed assessments that are useful for the purpose of measuring student growth. The aim of sharing a sample of promising DDMs is to stimulate further discussion about how, with a few strategic changes, existing assessments may be adapted for use as DDMs. According to ESE, the strongest DDMs will emerge from districts that have engaged in systematic study of the appropriateness and usefulness of their assessments specifically for determining what students have learned from their educators during a course of instruction.

A number of approaches to measuring growth that are described in a key ESE-developed resource, Technical Guide B, do not require complex psychometric methods or statistical computations. Each of these approaches has unique strengths and limitations. Many measures can be adapted to a variety of approaches to measuring growth, so decision-makers will want to use their professional judgment in weighing the pros and cons of each, considering competing goals and determining the approaches best suited for their contexts.

This document is intended to support those educators and administrators who are considering a holistic evaluation approach to examining growth with their locally developed assessments.

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1 Massachusetts Model System for Educator Evaluation, Part VII: Rating Educator Impact on Student Learning Using District-Determined Measures of Student Learning, Growth, and Achievement.

2 Companion documents have been developed that highlight three other common approaches to measuring growth: (a) a pre-test/post-test approach; (b) a repeated measures approach; and (c) a post-test only approach.
It includes the following:

- key resources developed by ESE that offer guidance for monitoring the technical quality of DDMs and for selecting a reasonable approach to measuring growth;
- a summary of the strengths and limitations of the holistic evaluation approach to measuring student growth;
- sample assessments submitted by Commonwealth districts, with suggestions for how the developers might refine each measure for use as a DDM; and
- information about a number of external resources that educators and administrators may find helpful if they elect to pursue a holistic evaluation approach.

It is hoped that this guidance document will help district personnel transform strong locally developed measures of achievement and/or performance into promising DDMs that are particularly effective in evaluating student growth.
Section I. Using the Holistic Evaluation Approach to Measure Student Growth with an Emerging DDM

Conducting a holistic evaluation is a relatively new approach for examining student growth. While using rubrics is not new for most districts, few have developed or used a rubric specifically designed to measure growth rather than performance at one point in time.

A holistic evaluation is based on a review of a collection of student work samples gathered systematically over a sustained period of time. The collection of student work is then scored using a growth rubric, holistically, across all work samples. This approach is typically associated with nontraditional measures such as a set of on-demand performance activities/demonstrations, portfolios, and observation-based measures (observing behaviors or actions at key intervals and providing an overall rating).

This approach has a number of strengths and limitations, based on guidance from experts in the educational research and measurement communities. These are summarized in Table 1.3

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3 See Appendix B for research- and measurement-based resources for the holistic evaluation approach.
Table 1. Strengths and Limitations of the Holistic Evaluation Approach to Measure Student Growth

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Creates an opportunity to evaluate students’ changing proficiency in performing complex tasks that have real-world relevance.</td>
<td>• Can be time-consuming to administer. Requires time to observe a wide range of performances, to allow for development of meaningful rubrics.</td>
</tr>
<tr>
<td>• Scoring rubric can be designed to combine the processes of scoring student work, determining growth, and setting parameters (high, moderate, and low) for growth.</td>
<td>• Standardized administration conditions (when? how many elements? who chooses the elements?) must be enforced.</td>
</tr>
<tr>
<td>• Use of a growth rubric can address important validity concerns raised by scoring performance assessments individually and then computing a growth score from the individual scores.</td>
<td>• Requires expertise to develop an effective holistic rubric designed explicitly for the purpose of measuring growth. Setting the criteria on which students will be judged and defining those criteria operationally, in the form of a useful scoring rubric, are also challenging.</td>
</tr>
<tr>
<td>• May be better able to show growth along a wide spectrum, as it allows the scorer to consistently identify growth in student work that may have very different strengths and weaknesses. For example, it is useful when the students in a particular grade, subject, or course have varied levels of ability but are working on a common task.</td>
<td>• Can be time-consuming to score. Also requires training and calibration to ensure consistent scoring against the rubric (inter-rater reliability challenges).</td>
</tr>
<tr>
<td>• Useful for measuring complex skills (e.g., reasoning), performing multi-step tasks, or analyzing work products that require considerable interpretation when being evaluated.</td>
<td>• Must ensure that products and/or behaviors observed are directly linked to what was taught (curriculum embedded).</td>
</tr>
<tr>
<td>• Rubrics are a communication tool. They make learning expectations and evaluation criteria explicit and can be used to help students get a clear vision of the task and the learning goals to which the task is linked.</td>
<td>• Different performance levels should be linked systematically to the development of expertise. Educators sharing a common DDM should reach agreement on the types of evidence/behaviors associated with performance at different levels.</td>
</tr>
<tr>
<td>• Illuminates where students started and how an educator helped them grow.</td>
<td>• Increasing the number of elements or tasks can improve the reliability of scores obtained but also adds to the time and expense involved in administering and scoring.</td>
</tr>
</tbody>
</table>

Other Considerations

Districts interested in using the holistic evaluation approach also may want to attend to the following considerations:

• Rubrics should include detailed descriptions of what growth looks like at each performance level.

• Evaluation criteria should be specific enough to capture the most essential ingredients of the skill being measured, but not so detailed as to create an undue burden for scorers in terms of length. The criteria should help educators distinguish among students’ performances but should not be overwhelming.

• Rubrics are most effective when they reflect the intended targets of learning and clarify the important dimensions of each target.
• Development of performance level descriptors will be an easier task if samples of actual student work are considered and those that best match various performance levels are identified. The characteristics of each can then be captured in the descriptors. Acceptable levels of agreement between raters can be established through the use of anchor papers and other methods for calibrating scores.

• It may be more efficient to borrow a strong growth rubric that already exists and adapt it for use in this context.

• To maintain scoring integrity, educators can arrange for peers to score one another’s sets of portfolios or they can elect to use an alternative process involving external raters.
Section II. Example Assessment #1, Using the Holistic Evaluation Approach to Measure Student Growth

The following portfolio assessment was submitted by a Commonwealth educator who adapted an existing measure for use as a DDM. For more information about the assessment, please contact Todd Wallingford at twallingford@hudson.k12.ma.us.

Locally Developed Assessment Well Suited for Use as a DDM
Submitted by: Todd Wallingford, Educator, Hudson Public School District

**Course/Grade:** English Language Arts (ELA) and Social Studies, Grades 9–12

**Assessment Name:** Hudson High School Portfolio Assessment

**Item Type:** Portfolio and Scoring Rubric

**Description:** This is a portfolio assessment designed to help students in ELA and social studies classrooms reflect on what they have learned over time and to help them set personal learning goals each semester. It is intended to demonstrate to educators the progress that students have made toward achieving specific learning expectations. Students are asked to reflect on their own academic growth and describe how they met personal goals on the pathway to meeting each learning expectation. They also submit an action plan for the following school year, including personal goals for the next year and how the student intends to accomplish the goals. These artifacts, reflections, and statements of academic goals are shared with students’ educators in subsequent courses.

Students select the work samples (reports, diagrams, photographs, artwork, videos, etc.) that are included in their portfolios. They are expected to be strategic during the selection process, to ensure that they have submitted different types of evidence of their academic growth. Students choose artifacts that demonstrate their progress toward mastering learning expectations in the following domains: collaboration, communication, creativity, critical thinking, and independence. On an ongoing basis, they upload their selected artifacts to an electronic site. Educators can access the documents there, and score the accumulated artifacts at key points in the semester or year.

When the developers of this tool began their work, they envisioned a common assessment process that could be used in a variety of courses by different educators to examine student growth. They also were united in their commitment to promoting schoolwide literacy and technology skills. They viewed a thoughtful portfolio assessment as an ideal way to help them reach important school improvement goals and enable students to take greater responsibility for their own academic growth.

This measure has been adapted for use in dozens of required (e.g., American and World Literature, U.S. and World History, and Economics) and elective (e.g., Creative Writing, Western Civilization, Journalism, and Psychology) courses. The results from the portfolio assessment are an important consideration when educators calculate final grades for their students.
Locally Developed Assessment Well Suited for Use as a DDM
Submitted by: Todd Wallingford, Educator, Hudson Public School District

(continued from previous page)

Educators score the portfolios using a common rubric with four performance levels: Exemplary, Proficient, Satisfactory, and Needs Improvement. Using performance level descriptors, educators evaluate each portfolio in relation to the degree to which the student demonstrated growth in each of the following areas: following directions, thinking strategically and creatively in selecting artifacts, using technology skills to submit the artifacts in a timely manner, organizing the artifacts meaningfully, and completing reflection activities effectively using knowledge of grammar, writing skills, and introspection.
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1. **Statement of Purpose:** Portfolios will provide a forum for students to reflect on their own academic growth and achievement over time and set specific personal learning goals for the future. Each student will choose samples of their work (“artifacts”) and explain how they demonstrate progress toward the five English and Social Studies Learning Expectations. The portfolio serves as an overall skill assessment and is therefore calculated as a portion of each course’s final grade.

2. **Vision and Beliefs:** Student portfolios provide:
   a. a way to document student learning over time.
   b. an opportunity to examine the features of quality work and instill pride in achieving improvement over time.
   c. an opportunity for students to engage in conversations about their learning with their teachers, and with others who may view their portfolios.
   d. a way for students to determine their own academic goals based on evidence and criteria, and to make plans to achieve those goals.
   e. an opportunity for students to take ownership of their learning and reflect on their learning process.

3. **Setting Up/Accessing an HHS Student Google Account**
   b. In the top right-hand corner, click “Sign In”.
      - If you have already created your HHS Student Google Account, simply sign in using your username (e.g., JQSchmoe2016@student.hudson.k12.ma.us) and password.
        • If you cannot remember your password, you will need to seek assistance through the technology department to reset.
      - If you have not already created your HHS Student Google Account, use the following instructions:
        • Enter your username (e.g., JQSchmoe2016@student.hudson.k12.ma.us).
        • Enter the following password: Hudson1234
        • Follow the program’s instructions to complete setup.
4. **How to Create a Google Site Portfolio (from school)**

1. Click on “Sites” (if it isn’t there, click on “More” and then possibly “Even more”).

2. Click on “CREATE”
Click on “Browse the gallery for sites”

Under “Select a Site Template” choose “HHS Portfolio”.

WestEd_MA DDM Guidance for Academic Content Areas_Holistic Evaluation Approach
1. In the space below “Name your site” type “HHS-portfolio” and then your first initial, middle initial, last name, and year of graduation. Do not use any spaces. For example: HHS-portfolio-JoeSchmoe2016
2. Click “Create”.
Under “Who has access” you will see Hudson Public Schools. Click the word “Change”.

1. Change “Visibility Options” to “Private”.
2. Click “Save”.

WestEd_MA DDM Guidance for Academic Content Areas_Holistic Evaluation Approach
1. Under “Add people”, add your teacher’s Google Apps for Education account.
   Ex:
   mderoy@student.hudson.k12.ma.us

2. Click “Share & Save”

If a prompt asks if you are sure you want to share with these people, click “Yes”. 
You will see “Manage Site” to the left of the screen. Under that should be the name of your site. Click on your site name.

Congratulations! You have created your own online Portfolio Site! Now you are ready to begin editing the pages and uploading your work samples! Click the pencil icon to begin editing.
How to log in to your site from home

To log in from HOME, log in to your Google account using your complete HHS Google account email address, e.g.:

JQSchnoe2016@student.hudson.k12.ma.us

From the menu bar, if you don’t see “Sites”, choose “More”.

If you still don’t see “Sites”, then click “Even more.”

Under “Your services”, click “Sites”.

...
5. **Personalizing Your Site**: Once you have created your site, feel free to be creative. You can alter the design to better demonstrate who you are as a student and a person.

   a. Go to the main page of your portfolio. Click the “More” button on the top right portion of the webpage. Then click on “Manage Site”. On the left-hand side of the page, scroll down until you see “Site Layout”, “Colors and Fonts”, and “Themes”. These options will allow you to do several things that personalize your site. It is up to you!

   b. You can also embed a variety of media that personalize your site. (Keep in mind that this site is for academic purposes and is designed to demonstrate your academic and personal growth.) In order to do this, click the pen icon on the top right to enter edit mode. Then use the insert function to embed an object. Do not forget to save your changes!

6. **Creating Course-Specific Pages**: These pages will be added at the discretion of your teacher and will be unique to the class you are presently taking. For example, English teachers may choose to add a page that documents independent reading, while Social Studies teachers may add a page that documents current-event presentations. These expectations will be communicated to you by your classroom teacher.

   a. In order to add a new page, click the page icon on the top right portion of the webpage. Next, name your new page according to the teacher’s instructions. Then identify what type of page it will be (webpage, announcement, file cabinet, or list). After that, select a location for your new page. This new page should be placed under the course page. Finally, click “Create.”
7. **Portfolio Expectations**: Understanding what is required for each section.

   a. **Introduction**
      - This is the home page of the Google Site. Students will use this page to introduce themselves to the reader, both personally and academically. Students should also demonstrate, metacognitively, what they know about themselves as learners. In addition to this narrative, students may use creative freedom to express who they are (including artwork, poetry, etc.).
      - Template structure:

      ```
      Hello! My name is ____________ and I am presently a/an ________________ grader at **Hudson High School**.

      Write a paragraph here that explains the following:
      1. Your interests
      2. Your favorite subject(s) and why
      3. The way you learn best (i.e., what did you or the teacher do in the class you learned/enjoyed the most?)
      4. What you hope to do the same and what you hope to do differently in school this year
      ```

   b. **Course-Level Learning Expectation Pages**: These “mini-blog” pages provide students with an electronic journaling space to document academic growth as it relates to a particular Learning Expectation. Students should regularly reflect upon specific assignments highlighting progress related to each Learning Expectation.

      *Here is a list of the Five Learning Expectations, with guiding questions to prompt thinking regarding reflections:*

      ✓ **Collaboration**: Working together with two or more people to achieve or produce something.

      Guiding questions to consider when reflecting on your learning:
      1. How well do I work with others?
      2. What role did I play in the group?
      3. How did I help my group achieve our goal? How could I have been more helpful?
      4. How did I respond to feedback from my peers, and/or how did I give feedback to them?
      5. How have I grown as a collaborator? or How do I plan to use this experience to help me become a better collaborator in the future?

      ✓ **Communication** Expressing your thoughts and opinions through writing, speech, or images in a clear way that other people can understand.

      Guiding questions to consider when reflecting on your learning:
1. How effectively did I communicate my ideas or thoughts in this activity/assignment?
2. Through which ways did I express my ideas? (Was this an oral presentation, written report, poster, etc.?)
3. How did I communicate any problems I had throughout the process of completing this activity/assignment?
4. How have I shown growth as a communicator through this activity/assignment? or How could I have communicated better?

**Creativity**: Involving the use of imagination to produce new ideas.

**Guiding questions** to consider when reflecting on your learning:

1. How did I express my ideas in a creative way in this activity/assignment?
2. How did I use my imagination to implement my own original ideas?
3. How have I grown as a creative learner? or How can I use this experience to become more creative in the future?

**Critical Thinking**: Making careful judgment on an idea or topic, using multiple pieces of evidence and perspectives, including those from your own personal experiences.

**Guiding questions** to consider as you write your reflections:

1. How did I gather my evidence?
2. How did I demonstrate my analytic skills? or How did I prove my argument?
3. What issues did I encounter when analyzing my evidence (proofs)?
4. How have I grown in my ability to think critically (analyze evidence)? or How can I use this activity/assignment to think critically in the future?
5. What connections can I make from this piece to other areas of my learning (e.g., science, math, art, etc.)?

**Independence**: Setting goals, taking action toward those goals, and overcoming obstacles without waiting for someone to tell you what to do.

**Guiding questions** to consider when reflecting on your learning:

1. How did I set goals and monitor my progress in order to complete this project?
2. How did I take initiative to overcome challenges and solve problems I faced?
3. How did I manage my time well in order to meet deadlines?
4. How did my attitude contribute to my results?
c. **Course-Level Final Reflection Page:** Students will use this page to complete a final and cumulative course reflection that analyzes academic growth toward meeting the Learning Expectations. Each reflection should contain the student’s personal thoughts on how he or she met his or her academic goals as they relate to the associated Learning Expectation. Reflections should identify and explain how the related artifact(s) demonstrates that growth. Each reflection should be a thorough and honest examination of the student’s own learning.

d. **Choosing Appropriate Artifacts:** How to choose appropriate evidence that demonstrates academic growth.

- Progress toward meeting each Learning Expectation should be demonstrated with at least one artifact, although providing multiple artifacts is preferable so that students can demonstrate growth over time.
- Artifacts should be a demonstration of student work (e.g., papers, videos, artwork). Rubrics are welcomed, but are incomplete demonstrations of academic progress.
- Artifacts should be embedded into the final reflection page under each reflection. It is vital that all embedded evidence is properly shared with viewers in order to receive credit. Evidence can also be attached to the bottom of the final reflection page.

e. **Letter to Next Year’s Teacher:** Students will use this page to critically analyze overall academic progress and establish a comprehensive yet appropriate action plan for the following school year. The action plan should identify specific and progressive academic goals related to each of the five learning expectations. It should also explain how the student plans on accomplishing each goal.

2. **Grading Criteria**

a. Portfolios will be worth 10–20% of the final course grade. The specific percentage will be set at each course/grade level.

b. Teachers will use the rubric on the next page as a general guide for assessing student work.
## Grading Rubric

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Exemplary</th>
<th>Proficient</th>
<th>Satisfactory</th>
<th>Needs Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Met Requirements (weight) %</strong></td>
<td>Contains all required content and then some.</td>
<td>Contains all required content.</td>
<td>Nearly all parts included.</td>
<td>Missing significant pieces.</td>
</tr>
<tr>
<td><strong>Organization (weight) %</strong></td>
<td>Portfolio organization is exceptional, ensuring ease of use. Appearance is professional and technology is mastered.</td>
<td>Portfolio organization is strong, ensuring ease of use for the most part. Appearance is professional and technology is mostly mastered.</td>
<td>Portfolio organization is satisfactory. Some aspects confuse the viewer. Appearance could use some improvement. There is obvious discomfort with the technology.</td>
<td>Portfolio organization needs work. The viewer has significant difficulty finding required elements. Appearance is lacking and technology is not understood.</td>
</tr>
<tr>
<td><strong>Creativity (weight) %</strong></td>
<td>Demonstrates outstanding creative approach and design throughout.</td>
<td>Strong creative effort throughout.</td>
<td>Basic creative effort throughout.</td>
<td>No attempt at presenting work in an interesting manner.</td>
</tr>
<tr>
<td><strong>Introduction (weight) %</strong></td>
<td>The introduction is informative and reflective, providing the viewer tremendous insight on the learner.</td>
<td>The introduction is informative and somewhat reflective, providing the viewer with some insight on the learner.</td>
<td>The introduction is informative, but lacks reflection, providing the viewer with limited insight on the learner.</td>
<td>The introduction is neither informative nor reflective, providing the viewer with little insight on the learner.</td>
</tr>
<tr>
<td><strong>Reflections (weight) %</strong></td>
<td>Reflections are completely honest and thoughtful assessments of academic progress.</td>
<td>Reflections are mostly honest and thoughtful assessments of academic progress.</td>
<td>Reflections are mostly topical assessments of academic progress and show little thought.</td>
<td>Reflections are basic assessments of academic progress and show no thoughtful reflection.</td>
</tr>
<tr>
<td><strong>Artifacts (weight) %</strong></td>
<td>Artifacts are completely relevant and accurately demonstrate academic performance as stated in reflections.</td>
<td>Artifacts are relevant and usually demonstrate academic performance as stated in reflections.</td>
<td>Artifacts are somewhat relevant and vaguely demonstrate academic performance as stated in reflections.</td>
<td>Artifacts are not relevant and fail to demonstrate academic performance as stated in reflections.</td>
</tr>
<tr>
<td><strong>Letter to Next Year's Teacher (weight) %</strong></td>
<td>The letter provides critical analysis of academic progress and establishes a comprehensive yet appropriate action plan for the following year.</td>
<td>The letter provides analysis of academic progress and establishes a decent action plan for the following year.</td>
<td>The letter provides some analysis of academic progress and establishes a basic action plan for the following year.</td>
<td>The letter provides little critical analysis of academic progress and fails to establish an action plan for the following year.</td>
</tr>
<tr>
<td><strong>Grammar (weight) %</strong></td>
<td>----------------------------</td>
<td>--------------------------</td>
<td>Spelling and grammatical errors are insignificant and do not impede the reader.</td>
<td>Spelling and grammatical errors make the product difficult to read.</td>
</tr>
</tbody>
</table>
Section III. Suggestions for Refining Example Assessment #1 to Ensure Usefulness as a DDM

This example assessment, which shows great promise for use as a DDM, is unique in a number of ways. First, it was developed specifically for the purpose of measuring student growth using a rubric that, with only a little tweaking, will support educators with decision-making about low, moderate, and high growth. Second, it is linked to other key initiatives in its district that are seeking to improve literacy skills across students in all ELA and social studies classrooms, increase students’ capacity to use technology skills strategically to accomplish tasks, and promote students’ greater investment in their own academic growth. Third, it can easily be adapted to different grades and subjects, which makes it ideal for districts seeking measures that promote comparability across grades, subjects, and courses.

Suggestions for refining this assessment are shared to illustrate some of the possible ways in which districts might, with slight modification, use existing assessments as DDMs.

**Suggestion 1: Develop rubrics that are designed to measure student growth.** Districts seeking to use a holistic evaluation approach with a promising DDM will want to develop rubrics that include descriptions of performance that are intended to capture what high, moderate, and low growth look like for each criterion (e.g., grammar). For example, students at Hudson High School who are completing this high-quality portfolio assessment are asked to choose work from across the year that demonstrates how they met goals they set for themselves during the previous course or school year. However, as currently designed, the rubric evaluates a final product, rather than evaluating changes in a student’s ability to organize, create, reflect, and/or use approved writing techniques. A growth rubric, on the other hand, would ask the rater to look for evidence of knowledge or skill that was not demonstrated in earlier work but is demonstrated in later work.

Admittedly, this can be a very challenging task. Districts that are developing new growth rubrics might use this development process as an opportunity to reach agreement on the key elements of growth that are most closely linked to their instruction. They can craft common language that can be used across a variety of classrooms, by creating a continuum of learning benchmarks and noting those changes in knowledge or skills that are most representative of low, moderate, and high growth for each criterion (e.g., appropriate use of domain-specific technical terms). Educators seeking to use a strong existing summative rubric as a DDM might consider changing their approach to measuring growth, rather than modifying the rubric itself. For example, they could compare a student’s end-of-year or end-of-course rating for each

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4 See Section IV for sample language that might appear on a rubric designed to measure growth.
criterion with that student’s ratings from the school year or course that immediately preceded it. They will be looking for evidence that a previous year’s rating changed over time—e.g., moved from Needs Improvement to Satisfactory or from Proficient to Exemplary. For each criterion on which a student demonstrated growth, the student would receive a point. A composite score could then be generated by summing the points earned across all criteria.

**Suggestion 2: Closely examine degree of alignment to the curriculum.** Technical Guide B states that the first priority for selecting a DDM is: “Is the measure aligned to valued content?” (p. 5). Districts will want to collect different types of evidence to support their claims that a holistic evaluation is instructionally sensitive—i.e., that it measures learning of content that is closely linked to what is taught. For example, if the goal is to assess creativity with the Hudson High School Portfolio Assessment, are students learning how to be creative in class? In what ways do educators expect to see change in a student’s creativity due to the class experience? Are students receiving instruction in how to select artifacts? With the current example, a district might decide that a student’s ability to reflect on his or her own growth and to write a coherent, grammatically correct letter are the criteria most closely linked to instruction and should thus be the focus for one of its DDMs.

Since students are being evaluated on multiple criteria, districts may want to consider strategies for ensuring that each criterion is fairly represented in their growth estimates. By assigning a weighted score to each individual criterion, an overall (holistic) score, which takes into consideration the relative importance of each criterion in terms of instructional sensitivity, can be assigned. When setting parameters for high, moderate, and low growth based on the total score, the district can then explain to stakeholders that those criteria that are most closely linked to valued content, and hence to instruction, contributed relatively greater weight to students’ growth scores.

**Suggestion 3: Collect evidence about the consistency of scoring.** Districts using a holistic evaluation approach will be looking for evidence that the portfolio-, performance-, or project-based assessment can be scored reliably across educators (inter-rater agreement or reliability) and over time (intra-rater reliability). To do so, they may want to consider collecting evidence about the degree to which (a) two educators scoring the same portfolio, performance, or project apply the rubric in a similar manner and assign the same rating, and (b) one educator applies the rubric consistently over time, assigning the same rating to one student who submits, performs, or presents work products at two closely spaced time points. They can use this information to improve training procedures and put in place periodic checks on scorer calibration.

Districts may find it useful to begin collecting examples of student work that raters agree are representative of each level of performance for each criterion. These examples can be very
helpful to educators when they are deciding if a sample of student work should be rated as exemplary, proficient, satisfactory, or needs improvement as outlined in the Hudson scoring rubric. If they are strategically selected and replaced when an even stronger sample of student work emerges, use of representative examples can support educators in making the finely grained distinctions about student growth that are characteristic of a strong DDM.
Section IV. Example Assessment #2, Using the Holistic Evaluation Approach to Measure Student Growth

A second example assessment, submitted by a former Commonwealth educator, is presented on the following pages. These tile-pattern problems were developed by College Preparatory Mathematics (CPM) and are reprinted here with its permission. For more information, please go to CPM’s website at [http://www.cpm.org/](http://www.cpm.org/).

<table>
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<tbody>
<tr>
<td>Submitted by: Leah Tuckman, Math Specialist, Greater Boston District and School Assistance Center</td>
</tr>
</tbody>
</table>

**Course/Grade:** Grade 8 Mathematics and Algebra I  

**Assessment Name:** CPM Math Assessments  

**Item Type:** Constructed Response and Scoring Rubric  

**Description:** This mathematics specialist submitted two task-based assessments developed by CPM that are intended to be administered in grade 8 mathematics and in Algebra I. Each measure can be administered at the beginning and end of the course or school year.

The measure for grade 8 directs students to look at a diagram with a series of patterns. Students are asked to create as many more representations of the linear function displayed as possible and to use different colors to help connect the representations. The measure for Algebra I has the same directions, but the pattern is somewhat more complex. Both measures are aligned to the *Massachusetts Mathematics Curriculum Framework* for grade 8 mathematics, and the standards assessed are specified.
Look at the pattern below. With the assumption that this pattern continues, complete and analyze the representation below and create as many more representations of this linear function as possible. Make sure to use different colors to help connect the representations together.

**Standards Assessed:** 8.EE.6, 8.F.1, 8.F.2, 8.F.3, 8.F.4, 8.F.5

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Dietiker, L. (2013). *Core Connections, Course 3* (2nd ed.). Sacramento, CA: CPM Educational Program. Copyright © 2013 CPM Educational Program. All rights reserved.
Algebra DDM

[College Preparatory Mathematics]

Look at the pattern below. With the assumption that this pattern continues, complete and analyze the representation below and create as many more representations of this linear function as possible. Make sure to use different colors to help connect the representations together.

**Standards Assessed:** A.SSE.1, A.SSE.2, A.SSE.3, A.CED.1, A.CED.2, A.REI.4, F.IF.4, F.IF.5, F.IF.7a, F.IF.8a, F.MA.8.c

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6 Dietiker, L. (2013). *Core Connections, Course 3* (2nd ed.). Sacramento, CA: CPM Educational Program. Copyright © 2013 CPM Educational Program. All rights reserved.
Section V. Suggestions for Refining Example Assessment #2 to Ensure Usefulness as a DDM

Suggestion 1. Develop a rubric that supports decision-making about low, moderate, and high growth. In order to use assessments like this example as a DDM, districts will need to determine how best to measure student growth using that tool. One strategy for doing so is to use a rubric to guide teachers in conducting a holistic evaluation of growth. As shown in Table 2 on the following page, a rubric designed to evaluate change in performance over time (i.e., from beginning of the year to the end of the year) can help educators draw conclusions about specific areas of growth and assign an overall rating for student growth. Note that the language used in the performance descriptors at each level is intended to capture change over time in students’ ability to respond to a mathematical task. The developer includes words such as “improvement” and gives credit to students who make key corrections to their earlier work when completing the same task at the end of the year.

The goal for this evaluation is to look for an overall increase in the number, accuracy, and connections between representations on the end-of-year or end-of-course task as compared to earlier work samples. In order to receive a rating of high growth, students must show significant improvement in all three skills. Students rated as demonstrating moderate or low growth also must show improvement in number, accuracy, and connections between representations, though at a relatively lower level. For example, one of the criteria required for students to receive a rating of high growth is that they must show “significant improvement” in graphical representation, while students assigned ratings of moderate and low growth will show “much improvement” or “little improvement” in graphical representation, respectively.
Table 2. Growth Rubric for Holistic Evaluation: Increasing the Number, Accuracy, and Connections Between Representations

<table>
<thead>
<tr>
<th>No Growth</th>
<th>Low Growth</th>
<th>Moderate Growth</th>
<th>High Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>One or two are true:</td>
<td>One or two are true:</td>
<td>Two are true:</td>
<td>All are true:</td>
</tr>
<tr>
<td>• There is no improvement in graphical representation of the function across versions (appropriate scaling/labeling/details/intercepts/key)</td>
<td>• There is little improvement in graphical representation of the function across versions (appropriate scaling/labeling/details/intercepts/key)</td>
<td>• There is much improvement in graphical representation of the function across versions (appropriate scaling/labeling/details/intercepts/key)</td>
<td>• There is significant improvement in graphical representation of the function across versions (appropriate scaling/labeling/details/intercepts/key)</td>
</tr>
<tr>
<td>• A few representations are included, but details are inaccurate in future versions</td>
<td>• Multiple representations are included, but inaccurate details have not been corrected in future versions</td>
<td>• Multiple representations are included, and details have been corrected in future versions</td>
<td>• Multiple representations are included, and details build upon previous versions</td>
</tr>
<tr>
<td>• There is no increase in connections made between the function representations</td>
<td>• There is a small increase in connections made between the function representations</td>
<td>• There is a moderate increase in connections made between the function representations</td>
<td>• There is a significant increase in connections made between the function representations</td>
</tr>
</tbody>
</table>
Appendix A: Key ESE-Developed Resources to Support Districts with Implementing DDMs that Effectively Measure Student Growth

August 2012

Part VII, Massachusetts Model System for Educator Evaluation: Rating Educator Impact on Student Learning Using District-Determined Measures of Student Learning

Overview of DDMs and related concepts. It will be most valuable for districts beginning to learn about this work.
http://www.doe.mass.edu/edeval/model/PartVII.pdf

Monthly Since February 2013

Educator Evaluator e-Newsletter

Monthly newsletter designed to be a timely resource that provides key information, updates, and answers to frequently asked questions.
http://www.doe.mass.edu/edeval/communications/newsletter/

March 2013

Introduction: District-Determined Measures and Assessment Literacy (Webinar Series #1)

ESE has developed a nine-part webinar series on DDMs and assessment literacy. This series is targeted at district teams engaged in the work of identifying and selecting DDMs (e.g., district- and school-based curriculum and assessment leaders). Resources from these webinars include the recorded webinar and materials from each session.
http://www.doe.mass.edu/edeval/ddm/webinar.html

April 2013

Basics of Assessment and Assessment Options (Webinar Series #2 and #3)
http://www.doe.mass.edu/edeval/ddm/webinar.html

Technical Guide A: Considerations Regarding District-Determined Measures

Designed to increase assessment literacy by introducing foundational assessment concepts. It will be most valuable to districts interested in learning more about technical assessment concepts.
http://www.doe.mass.edu/edeval/ddm/TechnicalGuide.pdf
April 2013 (continued)

Assessment Quality Checklist and Tracking Tool
An interactive tool, built in Microsoft Excel, that organizes and catalogs information about individual assessments into a districtwide tracker of all potential DDMs. It will be most valuable to districts working to identify and select measures across the district.
http://www.doe.mass.edu/edeval/ddm/webinar/Quality-Tracking-Tool.xlsm

July 2013

Determining the Best Approach to District-Determined Measures (Webinar Series #4)
http://www.doe.mass.edu/edeval/ddm/webinar.html

DDM Technical Assistance and Networking Session I
ESE-hosted technical assistance and networking sessions intended to build on the Assessment Literacy Webinar Series and provide participants an opportunity to engage with colleagues from other districts around critical planning and implementation questions related to the piloting and eventual implementation DDMs.
http://www.doe.mass.edu/edeval/ddm/webinar.html

August 2013

Measuring Student Growth and Piloting District-Determined Measures (Webinar Series #5)
http://www.doe.mass.edu/edeval/ddm/webinar.html

September 2013

Technical Guide B: Measuring Student Growth & Piloting District-Determined Measures

DDM Technical Assistance and Networking Session II
http://www.doe.mass.edu/edeval/ddm/webinar.html

October 2013

Determining How to Integrate Assessments into Educator Evaluation: Developing Business Rules and Engaging Staff (Webinar Series #6)
http://www.doe.mass.edu/edeval/ddm/webinar.html

Using Current Assessments in District-Determined Measures: Leveraging the Curriculum-Embedded Performance Assessments from the Model Curriculum Units
http://www.doe.mass.edu/edeval/ddm/UsingAssessments.pdf
December 2013

Ramping Up for Next Year: Strategies for Using Current Assessments as DDMs (Webinar Series #7)
http://www.doe.mass.edu/edeval/ddm/webinar.html

DDM Technical Assistance and Networking Session III
http://www.doe.mass.edu/edeval/ddm/webinar.html

January 2014

Communicating Results (Webinar Series #8)
http://www.doe.mass.edu/edeval/ddm/webinar.html

February 2014

Sustainability (Webinar Series #9)
http://www.doe.mass.edu/edeval/ddm/webinar.html

Implementation Brief: Scoring and Setting Parameters
http://www.doe.mass.edu/edeval/ddm/Scoring-ParameterSet.pdf

Implementation Brief: Investigating Fairness
http://www.doe.mass.edu/edeval/ddm/Fairness.pdf

Implementation Brief: Using Student Growth Percentiles
http://www.doe.mass.edu/edeval/ddm/GrowthPercentiles.pdf

March 2014

Implementation Brief: Indirect Measures and Specialized Instructional Support Personnel (SISP)
http://www.doe.mass.edu/edeval/ddm/IMSISP.pdf

April 2014

Implementation Brief: Administrators
http://www.doe.mass.edu/edeval/ddm/Admin.pdf

Implementation Brief: Considerations for English Language Learners
http://www.doe.mass.edu/edeval/ddm/ELLEducators.pdf

Implementation Brief: Considerations for Special Education
http://www.doe.mass.edu/edeval/ddm/SpecialEduEducators.pdf
### Table 2. Research- and Measurement-Based Resources for Holistic Evaluation Approach

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Resource</th>
<th>Topics Addressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Judy Arter, Pearson Assessment Training Institute</td>
<td>Creating &amp; Recognizing Quality Rubrics: A Study Guide (2009)</td>
<td>Recommendations for developing tools for tracking student mastery of important learning targets and planning the next steps in instruction. Chapters 1 and 2 prescribe various types of rubrics (holistic versus analytic) for different purposes. Chapter 3 focuses on general development guidelines. Also describes characteristics of effective performance tasks (Chapter 4) and how to score them, using rubrics as tools.</td>
</tr>
<tr>
<td>Laura Goe, National Comprehensive Center for Teacher Quality (NCCTQ)</td>
<td>Measuring Teachers’ Contributions to Student Learning Growth for Nontested Grades and Subjects (2011)</td>
<td>The NCCTQ describes options for assessing student learning growth for educators in grades and subjects not targeted for state standardized testing. See especially pp. 5–8 and 16–18. Focus is on developing growth measures that are aligned to valued content and are rigorous and comparable across classrooms. Guiding questions for examining feasibility also provided.</td>
</tr>
<tr>
<td>Barbara Moskal and Jon Leydens, Colorado School of Mines</td>
<td>Scoring Rubric Development: Validity and Reliability (2000, Practical Assessment, Research &amp; Evaluation, 7[10])</td>
<td>User-friendly recommendations for ensuring that various types of evidence are collected to ensure rubric validity and reliability and support continuous improvement.</td>
</tr>
<tr>
<td>Jim Popham, University of California, Los Angeles</td>
<td>What’s Wrong—and What’s Right—with Rubrics (1997, Educational Leadership, 55(2), 72–75)</td>
<td>Discussion of the essential features of a rubric (evaluative criteria for judging student responses, definitions of performance at each level, and scoring strategy) and how to avoid common pitfalls in using and/or developing each.</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Resource</td>
<td>Topics Addressed</td>
</tr>
<tr>
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</tr>
<tr>
<td>Jennifer Steele, Laura Hamilton, and Brian Stecher, RAND</td>
<td>Incorporating Student Performance Measures into Teacher Evaluation Systems (2010)</td>
<td>Provides guiding questions to help districts select quality measures of student performance. Strategies for addressing challenges used in other jurisdictions are highlighted. See especially pp. 8–9 and 23.</td>
</tr>
<tr>
<td>Tennessee Department of Education</td>
<td>Tennessee Fine Arts Growth Measures System (Note: similar rubrics are being developed for World Languages and Physical Education)</td>
<td>Designed to provide educators of music, theater, visual arts, and dance with authentic evaluations of what students know and can do at the end of instruction. Educators collect work samples over time, using a purposeful sampling process, and evaluate them for evidence of growth. Portfolios may be self-scored or scored by peer review. Measures growth in four learning domains: perform, create, respond, and connect.</td>
</tr>
<tr>
<td>National Center for Research on Evaluation, Standards, &amp; Student Testing (CRESST), in conjunction with Los Angeles Unified School District</td>
<td>Writing Assessments and Rubrics</td>
<td>Includes a set of sample performance tasks for grades 2–9 that are aligned to the Common Core State Standards. Intended to assess writing skills and support writing instruction in English language arts, science, and social studies. Scoring manuals, rubrics, anchor papers, and training papers are provided.</td>
</tr>
</tbody>
</table>