Incorporating Measures of Student Growth as District-Determined Measures:
Guidance from the Field for Career/Vocational Technical Education Programs in Commonwealth Districts

April 11, 2014
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- Dental Assisting
- Horticulture
- Design & Visual Communications
- Vocational Coordinator - Animal Science
- Plumbing, Automotive Technology, Carpentry, Health Assisting
- Early Education and Care
- Biotechnology
- Biotechnology
- Vice Principal
- Health Assisting
- Machine Tool Technology
- Electricity
- Drafting
- Environmental Science & Technology
- Engineering Technology
- Manufacturing, Engineering & Technological Occupational Cluster
- Health Assisting
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In August 2012, the Massachusetts Department of Elementary and Secondary Education (ESE) released information to Commonwealth stakeholders about the Commonwealth’s approach to incorporating a Student Impact Rating into the comprehensive educator evaluation process. This rating is intended to be based on patterns and trends in student learning. To establish patterns, evaluators and educators will collect data from at least two measures administered during the same school year. To establish trends, evaluators and educators will collect data from at least two different school years. The Student Impact Rating will inform decision-making about the focus and duration of an educator’s plan.

The measures adopted by school districts and career/vocational technical education (CVTE) programs—district determined measures (DDMs)—will allow for the tracking of patterns and trends from which the Student Impact Rating will be estimated. These assessments are intended to provide educators and administrators with valuable information about student learning in each class or course, about the effectiveness of the existing curricula, and about educator impact. With support from ESE, many Massachusetts districts and CVTE programs already have identified and are piloting promising measures that have the potential to meet these important goals.

Purpose of This Guidance Document

This guidance document is intended to support educators and administrators in Massachusetts schools and districts with CVTE programs with decision-making about the appropriateness and usefulness of promising DDMs for the purpose of measuring educator impact on student learning or student growth. The intent is to suggest a clear pathway for ensuring that the DDMs piloted by CVTE educators meet two critical criteria:

- Each DDM is strongly aligned to key content taught in a particular class or course.
- Results from each DDM are informative and useful to educators for the purpose of instructional planning and to administrators for the purpose of better understanding an educator’s impact on student learning.

1 Part VII of the Massachusetts Model System for Educator Evaluation: Rating Educator Impact on Student Learning Using District-Determined Measures of Student Learning, Growth, and Achievement.
To ensure that the guidance is tailored to the CVTE context, this document incorporates recommendations, ideas, and resources generated during meetings with Commonwealth CVTE educators and administrators. Several in-depth profiles are shared to showcase the overall processes that schools and districts with CVTE programs have used or are using to develop and/or select their DDMs. In addition, Appendix A of this document includes a sample of the currently used assessments, submitted by schools and districts with CVTE programs from across the Commonwealth, that hold promise for use as DDMs. The lessons learned about DDM development and implementations are intended to help contextualize the work to be done in the CVTE community and to promote collaboration across programs.

The authors of this guidance document have synthesized recommendations from many of ESE’s resources that are designed to support schools and districts with DDM development and implementation. These resources seek to ensure that the DDMs that emerge are appropriate and useful for the purpose of measuring educator impact on student learning or student growth. Each section of this document calls out those resources that CVTE educators and administrators may find most useful as they move forward with DDM development and implementation.

The aims of sharing the CVTE experience as articulated by a set of educators and administrators are to suggest strategies for tackling the challenges at each stage of DDM development and implementation, to present a sample of DDMs currently under development, to stimulate further discussion around critical content and measuring student growth, and to enhance collaboration and learning among CVTE personnel. WestEd is appreciative of all the CVTE educators and administrators who were willing to share their experiences in hopes that they might strengthen the quality of the outcomes that emerge from this initiative.

**Targeted Guidance at Each Stage of Development**

Schools or districts with CVTE programs may be at different stages in terms of DDM development and implementation. While many have piloted or soon will be piloting promising DDMs, this document offers a step-by-step approach that allows schools and districts at any entry point to access lessons learned from the field that may help them accomplish their goals and confidently move forward. It includes examples from the CVTE field that describe relevant experiences of Massachusetts stakeholders during each stage of development.

Figure 1 graphically describes the four stages of DDM development and implementation and summarizes the focus of each stage.
Figure 1. Four Stages in the DDM Development and Implementation Process

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<tbody>
<tr>
<td>Build a DDM team, reach agreement on instructional priorities, and plan for ongoing communication with stakeholders.</td>
<td>Brainstorm all possible DDM options, and collect promising existing measures and/or develop new ones.</td>
<td>Evaluate collected measures using two key criteria, and further evaluate qualifying measures for the purpose of measuring growth.</td>
<td>Administer selected measures, revise, and engage in the cycle of continuous improvement.</td>
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</table>

Each of these stages of work is described in greater detail in the sections that follow, with an overview of all steps and intended outcomes in Appendix D-1.

Structure of This Guidance Document

Section I of this document provides an overview of DDM development and implementation in the CVTE context. This section includes observations collected from Commonwealth educators and administrators who attended meetings facilitated by WestEd in January and February 2014. In addition, key themes that emerged from this process are highlighted to provide insight to the approach to the DDM initiative by the CVTE field. The aim of this section is to provide a better understanding of how the perspectives and experiences of CVTE stakeholders shaped this guidance document, with DDM “stories” at its foundation.

The steps associated with each stage in the DDM development and implementation process are described in Section II of this document. Each step is linked to key ESE documents that provide time-tested recommendations particularly relevant to this work.² It is hoped that this approach will guide educators and administrators to the resources that will be most helpful at each developmental stage. The examples from the field provide lessons learned and showcase the creative ways in which the DDM development and implementation process can be conducted in different contexts.

Section III of this document describes, in greater detail, how several Massachusetts districts with CVTE programs are approaching the DDM initiative and how they have each begun to identify, develop, and pilot a set of DDMs. Each profile highlights the strengths or existing initiatives upon which administrators were able to build, the challenges they faced, and the strategies they are using to accomplish their goals.

² A list of these resources is provided in Appendix B. All can be accessed on the ESE Educator Evaluation home page at http://www.doe.mass.edu/edeval/ddm/.
Finally, the appendices of this document provide a set of exemplars, tools, and resources developed by ESE, WestEd, and CVTE educators to help guide the DDM development and implementation process. These include a sample of promising assessments submitted by CVTE educators, a list of ESE-developed resources on DDM development and implementation, and a set of tools developed by WestEd for use with CVTE educators and administrators at meetings held in January and February 2014.
Section I.

Overview of DDM Implementation in the CVTE Context: Perspectives from CVTE Educators and Administrators

In the fall of 2013, ESE partnered with WestEd to engage CVTE educators and administrators in the DDM development and implementation process, involving the collection, review, and sharing of CVTE assessments for possible use as DDMs. A critical part of this process was to convene meetings for CVTE educators and administrators to facilitate collaboration across CVTE programs/career clusters, districts, regions, and the entire CVTE community. Experts representing all 11 career clusters were included and recruitment targeted the 27 highest enrollment CVTE programs.

Samples of near-complete assessment packages submitted by Massachusetts educators were provided as resources for CVTE educators and administrators at the meetings. After the meetings, WestEd conducted follow-up interviews with a number of the CVTE administrators who were actively engaged in DDM initiatives in their districts, and who were willing to share lessons learned with the field.

At these meetings and during follow-up interviews, key messages and recurring themes emerged. Most notable among these was the belief that the DDM initiative had created unique opportunities within the CVTE community—specifically, it afforded opportunities for educators and administrators:

- to specify the knowledge and skills most important for students to learn and how best to measure them,
- to bridge academic content and technical skills,
- to emerge as leaders in implementation of effective measures of growth, and
- to improve the practice of teaching.

Each is discussed in greater detail in this section.

Opportunity to Specify the Knowledge and Skills Most Important for Students to Learn and How Best to Measure Them

CVTE educators said that they appreciated the opportunity to discuss what they valued most in terms of the critical content taught in their programs. Their feedback suggested that they were more confident about the DDM development and implementation process after seeing that their decisions about instructional priorities were the foundation for subsequent work. They relied heavily on their familiarity with the Massachusetts Vocational Technical Education Frameworks (CVTE Frameworks) and their ability to prioritize and distinguish the elements that were critical in their programs. They understood that those elements were only a small subset
of the domain covered by the CVTE Frameworks—the content and skills that were deemed most critical for teaching and learning and that were measurable.

**Lessons from the Field: Measuring What is Valued**

Tim Broadrick, Technical Director
Shawsheen Valley Regional Vocational Technical School District

Comments from Mr. Broadrick about the importance of articulating core values:

Because regional vocational-technical districts are autonomous entities, each system is able to shape its mission and program offerings to best serve the needs of its member towns, citizens, and local business communities. A district that is well aware of its values and goals should seek to measure indicators that are consistent with those. In any system, significant time and energy should be devoted to promoting the knowledge, skills, and habits that lead to that system’s most valued student achievements. These may include MCAS performance or SAT scores, for example, but in a CVTE system are just as likely to include SkillsUSA performance, postgraduate job placement, student attendance, project-based production work, or cooperative education placement, to name a few. Educators who are in the best positions to influence the system’s most valued achievements should be evaluated based on their impacts in those areas.

For a district that has not explicitly identified its core values, that is a good place to start. For a school or program that fundamentally values a student’s ability to create tangible products, standardized, written knowledge assessments are probably inconsistent with the real goals of the system’s activities. This perspective—beginning with the system or district’s core values—might increase the difficulty or extend the time required to create high-quality impact measurements, but will ultimately lead to more authentic, relevant measures of educator impact.
Opportunity to Bridge Academic Content and Technical Skills

CVTE administrators discussed the importance of bringing together CVTE and academic educators to work collaboratively to develop curricula and assessments to measure growth. Several CVTE educators and administrators shared assessments in which writing-to-text and English language arts (ELA) have already been integrated into CVTE curricula and assessments through a collaborative process involving professional development. Academic educators have assisted with the development of writing rubrics, and CVTE educators have assisted academic educators with designing performance assessments. The DDM initiative provides an additional opportunity for districts to leverage the strengths of CVTE educators and provide support for the academic content that will improve rigor in the curriculum and evidence of student growth for both academic content and technical skills.

Lessons from the Field: Bridging Academic Content and Technical Studies

Michelle Roche, Vocational Director
Bill Blake, Academic Director
Minuteman Regional Vocational Technical

Academic content and technical skills are linked in strategic ways at Minuteman. Ms. Roche and Mr. Blake have worked closely together to move their district-level colleagues toward adoption of assessments and measurement protocols that are common to both areas of instruction. Cross-content (academic and technical) teams are evaluating the appropriateness and feasibility of developing common end-of-year capstone projects and growth rubrics that can be used as DDMs.

Lessons from the Field: Measuring What is Valued

Dr. Mike Ananis, Executive Director
Rindge School of Technical Arts

As a first step in working with his educators to develop DDMs, Dr. Ananis had them focus on critical content, and delivered this message:

I want you to take your juniors and tell me the most important things you want your students to know this year, and then we will work our way backwards to decide what to include in a pre-test and post-test.

He then reviewed what the educators decided upon and agreed with the content if it was recognized as part of the frameworks. He then asked them to determine how they would measure student growth, and how they would find the evidence of educator impact on learning.
Chicopee Comprehensive High School (CCHS) has been successful in integrating academic content with CVTE skills and facilitating collaboration among academic and CVTE educators. Mr. Ingram has helped facilitate a bridge between the academic and CVTE educators. CCHS started integrating academic content and technical skills about 15 years ago, after the introduction of the Massachusetts Comprehensive Assessment System (MCAS). Educators and administrators realized that they needed to increase the rigor of ELA and mathematics for CVTE students, in order for them to be prepared for testing and to do well in their academic and CVTE courses.

One way in which CCHS was able to do this was to access Perkins funds for professional development. Administrators and educators revised the Freshman Exploratory program by developing curricula and assessments to improve students’ ability to read and write essays about their CVTE program areas. In subsequent years, they then focused on revising curricula integrating ELA and mathematics with CVTE skills for sophomores, juniors, and seniors.

CCHS continues to update curricula to further integrate ELA and mathematics skills with CVTE and to improve rigor. For example, in 2010, CCHS updated the Explore 2000 ELA curriculum and developed 21st Century Explore (for ELA). This effort is designed to integrate ELA standards into all of its CVTE programs in order to meet and surpass the requirements of the ELA embedded academics in the CVTE Frameworks. A related priority was to align the teaching and scoring of writing in CVTE areas to be consistent with MCAS and prepare students for writing on the MCAS tests. In addition, student portfolio requirements and lessons were created for all shops. Educators were able to utilize common planning time after school to work together on revising curricula to ensure greater consistency across programs.

CCHS will draw upon its many years of experience integrating academic content and technical skills in CVTE curricula to improve rigor and measure student outcomes as it rolls out DDM development and implementation plans. After participating in the recent ESE-sponsored meetings of CVTE educators and administrators, Mr. Ingram began working with Kenneth Widelo, CVTE director at CCHS, on an action plan for developing and implementing DDMs with all CCHS educators. They will bring together CVTE, ELA, and mathematics educators in August 2014 for professional development on DDMs, which will entail modification of curricula and assessments to improve teaching and learning and to demonstrate student growth. Mr. Ingram would like to explore using pre-test/post-test assessments for each year of a program to measure student growth. He also plans to utilize Certificates of Occupational Proficiency as DDMs for programs where COPs already exist (e.g., drafting).
Lessons from the Field: Bridging Academic Content and Technical Studies

Jean George, CTE Director
Tri-County Regional Vocational Technical High School

Comments from Ms. George about integrating academic content and technical skills:

When I served on the CVTE Frameworks drafting review committee in 2012, all of us shared a vision for crafting the CVTE Frameworks in such a way that they called for the integration of academic skills, employability skills, and technical skills across our entire CVTE curriculum. Our educators have been doing a great job of embedding formative and benchmark assessments into instruction as a result of continuing work under a [Race to the Top] grant.

In fact, we have even started trying our hand at using curriculum-embedded performance assessments (CEPAs) that we have borrowed and modified from the Model Curriculum Units (MCUs) for culinary arts on food safety and sanitation, provided by ESE. During future professional development days, we hope to guide educators toward refining instruments for use as DDMs that share common protocols for administering, scoring, interpreting, and reporting across all classrooms for Chapter 74 programs.

Opportunity to Emerge as Leaders in Implementation of Effective Measures of Growth

CVTE educators have the opportunity to be leaders in the DDM initiative focused on estimating educator impact on student learning. Monitoring the development of student competencies has been a key responsibility for CVTE educators and administrators for many years. As a result, many measures that show promise for use as DDMs are already in place. This is an opportunity for CVTE educators to emerge as leaders by sharing lessons learned with educators in the academic content areas across the Commonwealth.

ESE has clearly and consistently conveyed the message that the DDM initiative should be district-driven and that each district or program must decide what measures will work best given its unique context. The work of developing and implementing DDMs is intended to build on existing efforts to monitor growth and not to become an “add-on” that is disconnected from district or program values and goals.
Lessons from the Field: Emerging as Leaders

Tim Broadrick, Technical Director
Shawsheen Valley Regional Vocational Technical School District

Comments from Mr. Broadrick about CVTE capacity to measure growth:

In recent years, Massachusetts CVTE systems and ESE have worked on a variety of projects regarding assessment of student competency attainment. Among these have been two revisions of Chapter 74 program curriculum frameworks, an online competency tracking system, and the unfinished Certificate of Occupational Proficiency testing project. When the Massachusetts Board of Elementary and Secondary Education amended the educator evaluation regulations, including the requirement to create measures of educator impact on learning, it is unlikely that anyone envisioned a link between this initiative and CVTE competency determination. However, DDM development and implementation represents an opportunity for local systems to reevaluate and codify how CVTE student competency is assessed and tracked. Districts with Chapter 74 programs will be wise to begin some of their conversations about DDMs by looking at existing assessments of student competency. The need to ensure equity among DDMs for educators in different content areas creates an incentive to identify best practices in CVTE competency assessment. Sharing those best practices will have the dual benefit of improving existing practice and establishing fair systems of determining CVTE educator impact.

I’ve been pleased with the open manner in which the WestEd and ESE team have acknowledged the unique nature of the CVTE experience. Rather than trying to force CVTE programs into a cookie-cutter academic assessment approach, this process has been about helping systems find ways to build DDMs around existing competency assessments or other measures of student achievement. The result has been a valuable set of examples and exemplars but at the same time an explicit agreement that one size does not fit all.

Over the last decade, CVTE educators have spent countless hours developing and improving skill assessment practices aligned to the 2007 and 2012 curriculum frameworks. It stands to reason that a fundamental approach to CVTE educator impact measurement should begin with those existing assessments. Likewise, many regional CVTE districts have spent forty years or more carving out a niche in local economies. Entire political systems, public relations engines, and local business partnerships already exist. The contributions of these systems in their local economies [are] another logical place to start when considering educators’ impact on students’ learning and on their futures as productive, skilled workers.
Lessons from the Field: Emerging as Leaders

Tom Hickey, Superintendent-Director
South Shore Vocational Technical High School

A recommendation from Mr. Hickey regarding DDM development and implementation:

Long before DDMs, Chapter 74 regulations provided direction on the importance of tracking student growth and achievement. Let’s keep this process simple, draw from our best assessment practices in CVTE classrooms, and work together to identify those measures best suited to move the field forward.

Opportunity to Improve the Practice of Teaching

Feedback from CVTE educators and administrators suggests that the DDM initiative has provided an opportunity to reflect on and discuss current instructional practices and how to maximize educator effectiveness. CVTE educators commented that they found the guided task of considering the extent to which various assessment approaches might be appropriate in their programs to be informative and enlightening. Similarly, CVTE administrators stated that they are incorporating work with DDM development and implementation into schoolwide initiatives to improve teaching and learning.

Many programs, appropriately, already use projects and portfolios to assess student work. Thus, a common theme across the small panels was consideration of strategies for establishing a baseline performance level, such as a pre-test of some type, with project- and portfolio-based measures. Discussion in a number of the small panels also focused on development of effective scoring rubrics. Many participants indicated that they gained insight about how to improve existing instruction-based assessments, based on their colleagues’ ideas and suggestions.

At the meetings, educators and administrators completed action plans that described their proposed next steps in the DDM identification, development, and implementation process. Many reported that they aim to share information and resources on DDMs by holding meetings with administrators, educators, their clusters, and advisory committees. They expressed eagerness to identify promising existing assessments and to develop new ones where needed. Educators’ comments from the meeting evaluations reflected their strong desire for improved teaching and learning to be one outcome of the DDM initiative.
Lessons from the Field: Improving Teaching and Learning

Michelle Roche, Vocational Director
Bill Blake, Academic Director
Minuteman Regional Technical Vocational High School

Michelle Roche highlighted how one educator in her district has used the DDM initiative as an opportunity to improve her practice:

This high school has embraced the opportunity to improve teaching and learning through dialogue across disciplines. In particular, CVTE instructors have appreciated discussions about student learning with principals and performance evaluators and sharing of best practices with colleagues.

For example, one instructor, Kathleen Smith, and her team identified the core knowledge, skills, and abilities for 27 CVTE programs from across the Commonwealth. They then developed a set of rubrics for grades 9–12 that will serve as the basis for a portfolio evaluation that measures student growth across four years of instruction in the Early Education and Care program.

Using the WestEd DDM Review and Discussion Guide as a resource, Ms. Roche was able to work with other CVTE administrators to identify steps Ms. Smith could take to complete the package associated with her assessment, such as providing a set of protocols for administering and scoring the measure, interpreting results, and developing reports for students, parents, and administrators. The CVTE administrators also made suggestions about incorporating performance tasks that are similar to those being field tested by the Partnership for Assessment of Readiness for College and Career (PARCC).

Lessons from the Field: Improving Teaching and Learning

Tom Aubin, Occupational Coordinator
Diman Regional Vocational Technical High School

Reflections from Tom Aubin on the value of DDMs to help improve instruction and student learning:

I used to ask myself when I was teaching: Did students learn anything today? How do I formally know if all students learned the objective(s) of the day’s lesson? With DDMs you will know something about whether kids learned.

He added this recommendation for other administrators:

We need to set aside time for educators to develop the assessment and learn how to understand data.
Section II.

Steps in the DDM Development and Implementation Process, with Lessons Learned from the Field

This section suggests a set of steps that CVTE educators and administrators may find useful as they undertake the process of developing and implementing DDMs in their schools and programs. These steps, each linked to a particular stage of rolling out the DDM work, are listed in Figure 2. For a complete table of the stages, steps, and anticipated outcomes, see the WestEd-developed resources in Appendix D-1.

Figure 2. Steps in Each Stage of DDM Development and Implementation

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<thead>
<tr>
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<tbody>
<tr>
<td>A. Build the DDM Team and Set Goals</td>
<td>D. Brainstorm All Possible DDM Options</td>
<td>F. Evaluate Collected Measures for Use as DDMs: Two Key Criteria</td>
<td>H. Administer Selected Measures</td>
</tr>
<tr>
<td>B. Reach Agreement on Instructional Priorities or Critical Content for Each Course</td>
<td>E. Collect Promising Existing Measures and/or Develop New Ones</td>
<td>G. Further Evaluate Qualifying Measures for the Purpose of Measuring Growth</td>
<td>I. Revise the DDMs Based on Findings and Feedback and Engage in the Cycle of Continuous Improvement</td>
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<tr>
<td>C. Plan for Ongoing Communication with Stakeholders</td>
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Each step is described in greater detail in the sections that follow.

Stage 1. Planning

Step A. Build the DDM Team and Set Goals

Planning, exploring, evaluating, testing and revising, and implementing multiple measures will require considerable commitment and thoughtful balancing of time and resources across a district or program. ESE has encouraged districts with CVTE programs to identify a team of representatives with specific skill sets who can provide leadership for such an effort, with support from district administrators. Each district or program will want to consider whether to
“go it alone” or partner with another school or district, particularly one with similar programs. Partnering offers the opportunity to deepen the pool of expert educators who can contribute to the development or identification of promising DDMs and can promote comparability in measures used within and across programs.

The anticipated outcomes from Step A are as follows:

- Documentation showing contact with a variety of CVTE stakeholders;
- A list of those educators who have agreed to serve on the DDM team; and
- An action plan that describes next steps in the DDM development and implementation process.

**Step B. Reach Agreement on Instructional Priorities or Critical Content for Each Course**

An important responsibility of the DDM team will be to identify the CVTE stakeholders who are most qualified to specify the content that should be assessed by a measure in order for the measure to meet an essential criterion for use as a DDM: strong alignment to the core content for each classroom or course. These individuals likely will include educators who teach in that program or similar programs and who can work together to identify common content that is covered in all classrooms or courses. School and district administrators also may see value in asking curriculum developers and other experts to join educators in this work.

These experts will be charged with systematically determining those elements of content that will best represent a meaningful learning experience for a student during a course or school year. In a recent resource, ESE explains why this step is so essential to the usefulness of the Student Impact Rating:

> A DDM that does not measure important content cannot provide useful information to educators about student learning. The selected content does not need to be a comprehensive collection of every learning goal covered in a year but instead must be a representative sample of the knowledge and skills taught by an educator. (p. 4)

Identification and documentation of the content intended to be measured by the emerging DDMs provides schools and districts with CVTE programs with a key opportunity to engage

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3 *Using Current Assessments in District-Determined Measures: Leveraging the Curriculum-Embedded Performance Assessments from the Model Curriculum Units.*
educators in the DDM development and implementation process and to build local capacity in terms of assessment literacy. It reminds all stakeholders of what educators of a particular classroom or course expect students to be able to do following their instruction. It also clarifies the important learning objectives and the desired learning goals for each educator and indicates what most students cannot do when they enter a classroom but can do after a year or course of instruction. In all cases, the sample of the full content domain to be measured by each DDM should reflect school and program values and instructional priorities.

Members of the CVTE DDM team will want to consider whether they will be focusing on general employability skills (e.g., time management), technical skills, or academic content (e.g., algebra or geometry). Some teams may conclude that identifying distinct measures of each area of focus is the best approach, while others may recommend identification of those assessments that measure some combination of technical competencies and academic content. At the January and February 2014 meetings, a number of educators and administrators expressed interest in focusing on employability skills, as doing so would ensure that at least one measure could be adopted for use as a DDM by all CVTE educators.

While working with Commonwealth educators in the academic content areas, WestEd developed a protocol for identifying core content that the CVTE educators at the January 2014 meeting found useful (see Appendix D-4). This protocol provides step-by-step recommendations for collecting relevant resources, using professional judgment, and reaching consensus on the content that should be assessed by DDMs for particular classrooms or courses in an area. At the January 2014 meeting, CVTE educators identified core content standards from the CVTE Frameworks to support the development of DDMs in particular programs; their recommendations are included in Appendix D-3.

The anticipated outcomes from Step B are as follows:

- Documentation of the content to which a promising measure must align in order to be considered as a promising candidate for use as a DDM
- Documentation of the resources used to complete this step (e.g., relevant Massachusetts frameworks, pacing guides, curriculum materials, Model Curriculum Units, industry standards, licensing/certification requirements)
**Step C. Plan for Ongoing Communication with Stakeholders**

It will be important for team members to agree on and consistently communicate positive messages about DDM development and implementation during all stages of work. ESE has encouraged schools and districts with CVTE programs to view their implementation of DDMs as an opportunity to capitalize on educators’ existing skills in monitoring and measuring student learning. Massachusetts educators have a wealth of experience in assessing student learning, and that experience will enable the success of this initiative. CVTE educators, in particular, are accustomed to progress monitoring and competency tracking, and are likely to serve as role models for others throughout all stages of DDM development and implementation.

The DDM team will want to regularly communicate with key stakeholder groups. Different strategies for disseminating information might be more or less effective for educators, administrators, and/or parents, so the DDM team should target the strategy (e.g., emails, newsletters, memoranda) to the audience(s). Communications could inform educators, students, and parents about the target classes or courses for the emerging DDMs and provide updates on upcoming plans to try out a set of DDMs for particular educators in the CVTE program.

The anticipated outcome for Step C is a set of strategies for communicating with educators, students, administrators, parents, etc., that:

- promotes discussion about what a school or program values in terms of critical content;
- helps educators consider how best to teach their content;
- supports identification and/or development of measures that can be used to evaluate educator impact on student learning;
- builds local capacity in terms of assessment literacy; and
- fosters collaboration across schools and programs, sharing of lessons learned, and leveraging of resources.

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**Key ESE-Developed Resources to Support Step C**

- **Technical Guide A** (see especially p. 36)
- **Technical Guide B** (see especially pp. 9 and 24 and Appendix G)
- **Webinar Series #8** (slides 4 and 6) and **#9** (slides 12–19)
Lessons from the Field: Communicating with Educators

Carl Ingram, Jr., Academic/CTE Coordinator
Chicopee Comprehensive High School

Mr. Ingram and DDM roll-out staff members are committed to ensuring that educators have the information they need in order to effectively participate in the DDM development and implementation process. CCHS administrators plan to disseminate information and resources developed by ESE and WestEd to educators during monthly faculty meetings and to design professional development activities focused on DDMs. They will use their model of professional development at a two-day workshop, at the end of the school year, that will bring together CVTE, ELA, and mathematics educators to revise curricula and assessments to improve teaching and learning and to demonstrate student growth. One strategy to support these efforts would be to access curriculum specialists dedicated to their schools to assist CVTE educators.

Lessons from the Field: Communicating with Educators

Jean George, CTE Director
Tri-County Regional Vocational Technical High School

Comments from Ms. George about communicating with educators about DDM roll-out:

I know we want to make the DDM roll-out process a positive experience for educators in our district, and we want to empower them because they belong to it and it belongs to them. Observing and evaluating student performance is something shop educators do all the time. At Tri-County, PD, technology, and tools have paid off dividends in terms of creating a culture that embraces more open and timely communication about student performance and teaching practice.

For now, our communications strategy is to present it to educators in a way that says “This is about informing you about your current teaching practice and offering you tools to adjust instruction to better support your students. Ultimately, this is about making your life easier, not harder.” As we roll out DDMs across our district, we’re exploring ways to “work smarter, rather than harder.”
Stage 2. Exploring

Step D. Brainstorm All Possible DDM Options

The next important task for the DDM team is to engage a set of educators, administrators, and/or curriculum and assessment specialists in brainstorming all possible approaches to measuring educator impact on student learning in a program. The goal for this group is to think creatively about a wide variety of approaches so that it can provide direction during the assessment collection process. Group members will want to encourage collection of different types of measures from which the most promising DDMs can be selected. The desired result at the end of Stage 2 is a coherent set of measures that complement one another strategically by measuring different facets of the critical content identified in Step B.

Consider the Full Realm of DDM Options. The group will want to consider which options for measuring educator impact on student learning might work best in its school or district’s unique context. Importantly, each general approach has strengths and limitations, as shown in Tables 1 through 3.

Table 1. Should schools or districts with CVTE programs build a new locally designed assessment, borrow one from another program or school, or buy a commercial product?

<table>
<thead>
<tr>
<th>Measurement Approach</th>
<th>Strengths</th>
<th>Limitations</th>
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<tbody>
<tr>
<td>Build</td>
<td>• Can ensure alignment to the specific elements of critical content intended.</td>
<td>• Requires time and expertise to develop measures.</td>
</tr>
<tr>
<td>Borrow</td>
<td>• Saves time and leverages expertise from another school or program. If measures are open source, may also save money.</td>
<td>• Measures may not measure critical content intended or may not be appropriate or sufficiently rigorous in new context.</td>
</tr>
<tr>
<td>Buy</td>
<td>• Measures may already be purchased for use in that program. • Measures may be linked to certification or licensing.</td>
<td>• Measures are costly if not already purchased, and alignment to critical content must be verified.</td>
</tr>
</tbody>
</table>
Table 2. Should schools or districts with CVTE programs use traditional measures or adopt a more non-traditional approach?

<table>
<thead>
<tr>
<th>Approach</th>
<th>Strengths</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional</td>
<td>• Familiar to most stakeholders and easy to administer and score.</td>
<td>• Often composed of predominantly selected-response items that are unlikely to fully assess all elements of critical content.</td>
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<tr>
<td></td>
<td>• Many already exist, such as summative end-of-year and end-of-course tests; interim assessments; and educator-developed midterm or final exams.</td>
<td>• Many will require adaptation for use as measures of student growth.</td>
</tr>
<tr>
<td>Non-Traditional</td>
<td>• May be more authentic measures of certain elements of critical content.</td>
<td>• May be challenging and/or costly to administer and score.</td>
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<tr>
<td></td>
<td>• May include culminating projects, performance tasks, portfolios or other collections of student work, or checklists of some type.</td>
<td>• Administration and scoring guidelines (and well-developed rubrics) are critical to ensuring the effectiveness of this option.</td>
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<td></td>
<td></td>
<td>• Must be measures of growth, not achievement or current status.</td>
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Table 3. Should schools or districts with CVTE programs incorporate both direct and indirect measures of student learning?

<table>
<thead>
<tr>
<th>Measure</th>
<th>Strengths</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td>• Information based on actual samples of student work.</td>
<td>• May require time and resources to collect measures.</td>
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<tr>
<td></td>
<td></td>
<td>• May not be feasible for all elements of critical content.</td>
</tr>
<tr>
<td>Indirect (examples: graduation or promotion rates)</td>
<td>• Generally easy to collect.</td>
<td>• CVTE programs electing this option will need to monitor factors other than educator impact on student learning (e.g., changing community demographics or economy) that may cause the overall numbers or rates to fluctuate.</td>
</tr>
<tr>
<td></td>
<td>• May be strongly valued by a particular program as a strong indicator of educator impact on student learning (e.g., the number of students passing a certification/licensure exam).</td>
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</table>

Each group will need to weigh tradeoffs when determining the most appropriate approach(es), given its unique context. For example, a non-traditional approach such as use of a portfolio assessment may appeal to group members because they believe that collections of work products are an authentic way to capture information about student learning that is closely tied to the curriculum. However, effective portfolio assessments can be costly and time-consuming to develop, and decisions must be made about how items or work products will be selected, stored, and scored. Similarly, DDM team members may be interested in using an indirect measure, e.g., the number of students entering a cooperative experience, as it may be highly relevant in their program. During deliberation, however, they will want to consider whether this measure is actually a strong measure of the content that they have specified as the focus for instruction and assessment. The members of the team will bring different types of expertise
and experience to this decision-making process, and the program will benefit from their thoughtful consideration of the strengths and limitations of each for a particular program.

Conduct an Inventory of What Measures Are Currently Used. The following questions may be useful for schools and districts engaged in this work:

- What are we currently using that might also be used as a DDM? Is an assessment already in use that could be revised or adapted for this purpose? What existing measures have potential for use as measures of educator impact on student learning?
- On what ongoing initiatives might we build? Are we currently engaged in work that can be integrated with DDM development and implementation efforts?
- Where are the gaps, or elements of critical content for which no reasonable measure currently exists?

Selecting a measure already in use offers a number of advantages. First, it will be familiar to stakeholders, and results are likely to have been useful in the past. Second, it may be more cost effective and efficient to select a measure that is currently used than to buy or build a new one, particularly if it is linked to other federal (e.g., Perkins Act), state (e.g., Chapter 74), or local CVTE initiatives. For example, many CVTE programs may be using competency-based measures and/or participating in SkillsUSA capstone projects or performance activities. The DDM teams in those schools or districts will likely want to include these measures among those considered for use as DDMs.

DDM teams also will want to consider opportunities to strategically integrate the DDM development and implementation process with other valued initiatives in which the district is engaged. These may include RTTT-funded activities, community or regional projects, or a school improvement effort. The goal is to leverage resources and capitalize on lessons learned through other important work to which the district has committed time, resources, and staff.

To inform the collection process described in Step E, the anticipated outcome from Step D might be a brief report that documents all approaches considered and the potential strengths and limitations of each from their perspectives. The WestEd-developed DDM Review and Discussion Guide (see Appendix D-2) may be useful to DDM teams seeking a structure for the brainstorming and documentation processes.
Lessons from the Field: Capitalizing on Existing Teaching and Testing Practices

Heidi Driscoll, Director of Academics
Southeastern Regional Vocational Technical

Comments from Ms. Driscoll about how to ensure that the DDM work is integrated with other efforts:

At Southeastern, we really think keeping it simple is best. Simple, focused, and shared process roll-outs have worked best for us in the past. Early on in the DDM process, we realized we wanted to keep things uncomplicated, and that it made more sense to keep things simple for our educators than [to make] DDM implementation into an avalanche of new projects.

As such, district administrators decided to focus on measures that would be simple, equitable, and efficient to implement districtwide. Their goal is for all educators to be evaluated using the same yardstick, using the least amount of logistical effort to administer and maintain. From this launching point, it was easy and natural for the Evaluation Team to focus on our current teaching and assessment practices.

Lessons from the Field: Capitalizing on Existing Teaching and Testing Practices

Michelle Roche, Vocational Director
Bill Blake, Academic Director
Minuteman Regional Vocational Technical

Starting in the 2013 school year, CVTE administrators and educators at Minuteman RVT began a process to identify, select, and implement districtwide common assessments across multiple CVTE programs and career clusters. By fall 2013, enough groundwork had already begun across the district to identify common administration protocols for senior capstone projects and portfolios. So, when the time came to propose DDM measures for CVTE programs, ongoing RTTT-initiative efforts that connected educators to training and professional learning opportunities around assessment and data literacy were a natural starting place. The RTTT award allowed the district to have a collective conversation about what should be valued and measured in CVTE studies. This deliberative process was undertaken during daily common planning time for CVTE educators. As a result, Minuteman’s administrators are optimistic about rolling out DDMs for their district.
Lessons from the Field: Capitalizing on Existing Teaching and Testing Practices

Leslie Weckesser, Vocational/Technical Director
Southeastern Southeastern Regional Vocational Technical

Comments from Ms. Weckesser about building on what Southeastern is already doing:

What’s different about Southeastern, compared to what we have seen happen in other CVTE districts, is that we have posed and answered a different set of questions than our colleagues have. While others began the DDM process by looking at what they needed to do, we instead focused on what we were already doing to measure student success.

Over the last seven years we have made progress in identifying key performance indicators for all our programs, from the number of co-op placements to the number of certifications completed. We collect, analyze, and share this information with educators at the start of each school year in the Vocational Performance Indicators Report. From efforts like these, we have learned to identify what success looks like and how to measure it—with the help of a data analyst. Along the way, as a district, we have learned to become more data-driven in our decision-making.

Since 2009, we have been working to better align district assessment practices to Perkins IV as recommended by our last Coordinated Program Review. We have leveraged that experience in thinking about DDMs. Early on, we decided we did not want to create a new part-time job for everyone at Southeastern related to DDM implementation. We realized we did not have to start from scratch. Instead, past experience and lessons learned from prior initiatives helped district administrators confirm our sense that we were on the right track toward moving the needle forward on student achievement across our district.
Step E. Collect Promising Existing Measures and/or Develop New Ones

Once the DDM team members have brainstormed all reasonable approaches to measuring educator impact on student learning in their program, they will be ready to start collecting assessments and all associated documentation. All information collected will be documented and then used by the evaluators in Steps F and G to determine the overall appropriateness of each collected measure.

Team members will be looking for administration protocols, scoring guides or keys, rubrics, and guidelines for interpreting results. Along with the assessment itself, these documents comprise the most important elements of an assessment package. Team members will also be looking for answers to questions such as the following:

- When will the assessment be administered? How and by whom? Will all students be administered the assessment at the same time?
- How long is the test or activity?
- How will it be scored? Must scorers be trained?
- How will results be interpreted and used? What are the district’s parameters for low, moderate, and high growth?

Because this information will help ensure that all educators using the same DDM are administering, scoring, and interpreting results similarly across programs, the team will want to collect as much evidence as possible to support each assessment’s use as a potential DDM.

The anticipated outcome from Step E is a collection of assessments and supporting documentation that are deemed worthy of further consideration for use as a DDM.
Lessons from the Field: Developing the DDM “Package”  

Genevieve Castillo, Educator  
Montachusett Regional Vocational Technical

Ms. Castillo submitted an architectural drafting pre-test/post-test assessment for peer review during the ESE-sponsored convening on DDMs in January 2014. Her submission did not include administration and/or scoring guidelines at that time. Knowing that others seeking to “borrow” her measure would benefit from that type of information, Ms. Castillo worked with WestEd to develop those additional pieces.

WestEd provided Ms. Castillo with a template for developing an administration protocol and scoring guide. This template included the following sections:

<table>
<thead>
<tr>
<th>Administration Protocol</th>
<th>Scoring Guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment Design</td>
<td>Scoring the Assessment</td>
</tr>
<tr>
<td>Preparation for the Post-Test</td>
<td>Interpreting the Results</td>
</tr>
<tr>
<td>Number and Length of Assessment Sessions</td>
<td>Answer Key</td>
</tr>
<tr>
<td>Information for Students: Pre-Test</td>
<td></td>
</tr>
<tr>
<td>Information for Students: Post-Test</td>
<td></td>
</tr>
<tr>
<td>Special Accommodations</td>
<td></td>
</tr>
</tbody>
</table>

WestEd drafted preliminary text in each section to jumpstart Ms. Castillo’s writing. This draft material was based on a review of her submitted pre-test/post-test assessment. For example, the assessment included 21 multiple-choice questions, 22 short-answer questions, and 7 true/false questions, so this information was inserted into the assessment design section of the administration protocol template. In addition, WestEd suggested that Ms. Castillo include information about the assessment’s development practices and refinements incorporated over time, so that potential users can make informed decisions about its appropriateness for various student populations.

In discussion with WestEd, Ms. Castillo quickly discovered that the process of developing an administration protocol and scoring process involved systematically documenting the options she considered and the decisions she reached at each stage of development. She realized that she had all of the relevant information, but had never thought to record it because she was the only educator administering and scoring the assessment. A key outcome from this exercise was Ms. Castillo’s realization that documentation was essential if colleagues were interested in using her measure.

Ms. Castillo’s extra effort will enable standardized administration of the measure and consistent scoring by CVTE colleagues who may want to utilize it as a DDM for their drafting CVTE program. Please see Appendix A for more information about this assessment.
Stage 3. Evaluating

Step F. Evaluate Collected Measures for Use as DDMs: Two Key Criteria

In this step, the DDM team turns its focus to evaluating the body of evidence that has been collected for each promising assessment. During this initial phase of evaluation, team members will concentrate on determining if and to what degree each assessment meets two key criteria:

1. **Is the assessment aligned to instruction of content that is valued or judged to be critical?** Does it assess what is most important for students to learn and be able to do? Does it assess what the educators intend to teach?

   To evaluate each collected assessment against the first criterion, team members will want to look at evidence such as the standards intended to be covered by the assessment, test specifications, or a blueprint. Their goal will be to reach agreement on whether the measure being considered assesses what educators in the program intend to teach and what is most important for students to learn. They will want to consider whether the measure matches the content in terms of breadth and depth. While a single assessment is not expected to measure all elements of critical content, it should assess content at the level of rigor specified by the standards that it is intended to measure.

2. **Will results be informative and useful to educators and administrators?**

   To evaluate each collected assessment against the second criterion, team members will want to consider the likelihood that a particular measure will be informative and will provide valuable feedback to educators. For example, will results from this measure inform educators about curriculum, instruction, and practice? Will the measure discriminate well among students performing at different levels? Will it provide information about which students are making the desired progress and which are falling making the desired progress?

   The team will also want to evaluate the usefulness of results for administrators. Team members should look for measures that will inform administrators about the instructional effectiveness of their educators and will add to the body of evidence about a particular educator’s impact on student learning. The most effective measures will have the capacity to help administrators use trends and patterns to make accurate determinations about whether the students in particular classrooms have met or exceeded the threshold for moderate growth.

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**Key ESE-Developed Resources to Support Step F**

- **Technical Guide A** (see especially pp. 24–25)
- **Technical Guide B** (see especially pp. 5–10 and Appendix E)
- **Assessment Quality Tracking Tool**
- **Webinar Series #2** (slides 21–27), **#4** (slide 21), and **#9** (slides 12–19)
Only those assessments that satisfactorily meet both initial criteria will qualify for further consideration as a DDM. WestEd has developed a tool that CVTE educators and administrators may find useful for completing this step. The DDM Review and Discussion Guide (see Appendix D-2) provides a systematic approach to determining the extent to which an assessment meets these criteria and thus qualifies for further review as a measure of growth.

The anticipated outcome from Step F is a list of all assessments considered and decisions made about each in terms of content alignment and usefulness.

**Step G. Further Evaluate Qualifying Measures for the Purpose of Measuring Growth**

Those promising assessments that have been verified by the team as aligned to critical content and informative and useful to educators and administrators are candidates for further consideration for use as a DDM. During this second phase of evaluation, team members will concentrate specifically on determining whether an assessment can be used for the purpose of measuring student growth. The key question for evaluators during this step is as follows:

- Does this measure detect some type of change in performance that represents a gain that can be attributed to effective instruction?

Why is it so important that a DDM measure student growth? In a recent technical guide for Commonwealth stakeholders, ESE provided the following explanation:

Student growth scores provide greater insight into student learning than is possible through the sole use of single-point-in-time student achievement measures . . . Achievement scores provide valuable feedback to educators about student attainment against standards, but taken by themselves may not be a sufficient reflection of student progress.

In addition, DDMs that measure growth help to “even the playing field” for educators—allowing educators who teach students who start out behind to have a similar opportunity to demonstrate their impact on student learning as educators who teach students who start out ahead . . . In fact, measures of growth actually create opportunities to identify where low-achieving students are making tremendous gains. Therefore, assessments that measure growth

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allow schools and districts to rate educators based on their impact on student learning, and not on which students they happen to be teaching. (p. 11)

The goal for this step is to identify those promising assessments that (a) document what students know and can do before instruction and what they know and can do following a course of instruction or (b) capture important learning milestones reached throughout the course of instruction. An appropriate DDM must be useful for detecting a change in performance that can be interpreted as growth, because, by design, that change will be strongly linked to what is taught in a classroom or course. It should now be clear why the first criterion in Step F, alignment to content identified as central to instruction, is a prerequisite for the capacity to measure student growth.

**Approaches to Measuring Growth.** As discussed in the ESE resources cited as key for this step, a number of approaches to measuring growth are familiar to educators and do not require complex psychometric methods or statistical computations. Each of these approaches has unique strengths and limitations. Because of the unique characteristics of each CVTE program, one approach might work best in one program while another approach is better suited for a different program. In addition, 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.

Tables 4–7 describe four common approaches to measuring growth, the strengths and limitations of each, and specific considerations about each approach from ESE and from the research and measurement communities. Following each table is a summary of a CVTE program-submitted example of a measure using the growth approach described in the table; the full measures are included in Appendix A.

**Common Approaches to Measuring Growth: Pre-Test/Post-Test Assessment**

Description: A pre-test/post-test looks at the difference between scores on two assessments administered at different points in time. These assessments help educators understand how much a student has learned as a result of instruction. Districts interested in this option may use traditional or non-traditional measures as pre-test/post-test assessments.
### Table 4. Strengths and Limitations of Pre-Test/Post-Test Assessment

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Approach is familiar to educators.</td>
<td>• Assumes a common scale that allows scores to be compared across different</td>
</tr>
<tr>
<td>• Gain score (difference between the two scores) approach is easily</td>
<td>points in time and assumes score differences to be interpretable as</td>
</tr>
<tr>
<td>computed but also can be the foundation for more complex analyses.</td>
<td>representing increased mastery of specific knowledge or set of skills.</td>
</tr>
<tr>
<td>• Can use identical measures administered twice or comparable versions.</td>
<td>• May be ceiling effect if measures do not have sufficient number of very</td>
</tr>
<tr>
<td>• Provides descriptive information about both direction (positive or</td>
<td>hard items or elements so that students with strong baseline scores can</td>
</tr>
<tr>
<td>negative) and magnitude (how much) of change.</td>
<td>demonstrate growth.</td>
</tr>
<tr>
<td>• When used to examine magnitude of gain at the student level or average</td>
<td>• Raw gain score should not be used to rank students.</td>
</tr>
<tr>
<td>gain for a classroom, this approach is appropriate and can have</td>
<td>• Items or elements on measures must be carefully developed or selected to</td>
</tr>
<tr>
<td>sufficient precision.</td>
<td>ensure that change in what students know and can do is directly linked to</td>
</tr>
<tr>
<td>• Growth expectations can be aligned to an absolute standard (student</td>
<td>what was taught.</td>
</tr>
<tr>
<td>made progress toward a set goal) or norm-referenced (student made more</td>
<td>• May create incentive to keep pre-test scores low.</td>
</tr>
<tr>
<td>or less progress than peers). If model of choice uses absolute</td>
<td></td>
</tr>
<tr>
<td>standard, value judgments are necessary for low, moderate, and high</td>
<td></td>
</tr>
<tr>
<td>growth. If model is norm-referenced, rating can be interpreted as a</td>
<td></td>
</tr>
<tr>
<td>percentile ranking.</td>
<td></td>
</tr>
</tbody>
</table>

**Other Considerations**

- Can be reported as raw gain (e.g., 20-point increase from pre-test to post-test) or percentage increase (20 percent increase from pre-test to post-test). The method used should ensure comparability between students beginning at different levels of achievement. Districts may also use an approach where different sets of parameters are used to determine high, moderate, or low growth based on pre-test scores.
- If using comparable versions of a test, need to ensure that measures are not so different that changes in performance may be due to variations in the measures rather than to actual student growth.
- Time interval between tests must be explicit and intentional. It may be based on time (e.g., after ten weeks of instruction) or curriculum (e.g., after 25 lessons).
- If linked assessments are scored on a common scale, scores yielded should represent the full range of performance at the beginning and the end of school year.
Common Approaches to Measuring Growth: Repeated Measures Assessment

Description: With a repeated measures assessment, one or more assessments are administered multiple times to get information about how students performed at different points in time. This approach generalizes gain scores from multiple time points through the calculation of an average gain or slope (learning trajectory). Districts interested in this option may use traditional or non-traditional measures as repeated measures assessments.

Table 5. Strengths and Limitations of Repeated Measures Assessment

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Allows educators to use current assessments that are already administered multiple times during the school year.</td>
<td>• Requires authentic tasks so that improvement over time reflects growth rather than familiarity with the assessment.</td>
</tr>
<tr>
<td>• Generally relatively short and deeply integrated into the curriculum.</td>
<td>• Requires educator capacity to record and organize multiple data points for each student.</td>
</tr>
<tr>
<td>• Provides information to educators about improvements at various times across the year.</td>
<td>• Intervals between testing should be consistent across students and over time.</td>
</tr>
<tr>
<td>• Educators receive continuous feedback about students, and can modify their practices accordingly.</td>
<td>• Limitations of pre-test/post-test are relevant to this approach e.g., assumes a common scale that allows scores to be compared across different points in time and assumes score differences to be interpretable as representing increased mastery of specific knowledge or set of skills.</td>
</tr>
<tr>
<td>• Growth score can be generated using methods ranging from simple to sophisticated.</td>
<td>• Strengths of pre-test/post-test are relevant to this approach e.g., assumes a common scale that allows scores to be compared across different points in time and assumes score differences to be interpretable as representing increased mastery of specific knowledge or set of skills.</td>
</tr>
<tr>
<td>• Strengths of pre-test/post-test are relevant to this approach. However, precision of growth estimate generally increases using multiple time points.</td>
<td></td>
</tr>
</tbody>
</table>
Other Considerations

- Helpful to look at results graphically.
- Authentic performance tasks that (a) closely match the learning an educator wants students to demonstrate, and (b) are designed to show improvement over time, as students gain more sophisticated knowledge and/or improve skills, are the best candidates for use as a repeated measures assessment.
- For the purposes of determining high, moderate, or low growth, districts can compute a growth score by taking the difference between averages of several observations.

Lessons from the Field: Example of a Repeated Measures Assessment

Ken Rocke
Lower Pioneer Valley Educational Collaborative

**CVTE Program:** Carpentry

**Assessment Name:** Carpentry Competency Chart

**Item Type:** Competency-based performance task checklist

**Description:** This instrument measures technical skills attainment in carpentry using a performance task checklist. It may be used as a repeated measure to gauge student progress toward mastery of shop equipment safety training and shop tool use. Competencies in the use of the following tools and equipment are captured through educator observation of student demonstrations and task performance: circular saw, radial arm saw, jointer, planer, table saw, wide-belt sander, and slide-compound saw.

**Note:** The complete DDM is provided in Appendix A.

Common Approaches to Measuring Growth: Holistic Evaluation

Description: A holistic evaluation is based on a review of a collection of student work samples gathered systematically over a sustained period of time. Using a scoring rubric, growth is evaluated holistically across all work samples. Using a growth rubric, a rater evaluates the collection of student work holistically. This approach is typically associated with non-traditional measures such as a set of on-demand performance activities/demonstrations, portfolios, and observation-based measures (observing one or more behaviors or actions at key intervals and providing an overall rating).
Table 6. Strengths and Limitations of Holistic Evaluation

<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 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. Also challenging to set the criteria on which students will be judged and to define operationally these criteria in the form of a useful scoring rubric.</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 quite 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 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

- Rubric 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 undue burden for scorers in terms of length. Criteria should help educators distinguish among students’ performances but not be overwhelming.
- Most effective when it reflects the intended targets of learning and clarifies 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. Then the characteristics of each can 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.
- May be more efficient to borrow a strong growth rubric that already exists and adapt it for use in your desired context.
- To maintain scoring integrity, recommended practice is to arrange for educator peers to score each other’s sets of portfolios (or to use an alternative process that utilizes external raters).
Lessons from the Field: Example of a Holistic Evaluation

Tom Belland, Vocational Coordinator
Blackstone Valley Regional Vocational Technical High School

CVTE Programs: Automotive Technology, Carpentry, Health Assisting, Plumbing

Assessment Name: Certificate of Occupational Proficiency (C.O.P.)/Skills Assessments

Item Types: On-demand writing and performance tasks

Description: Massachusetts C.O.P./Skills Assessments were created to help schools gauge student progress on comprehensive exams in a competitive atmosphere. The assessments were created by working groups of CVTE educators and administrators from several schools in the Commonwealth. The four exams listed below are the start of a lengthy process that will encompass all state-recognized CVTE programs at the secondary level. They will also provide student and district data to those schools participating in a C.O.P./Skills pilot data cohort now in the development stage.

- **Automotive Technology**
  - 5 hands-on skills assessments
  - Written exam: Workforce Ready System (ASE student certification, A.Y.E.S.)

- **Carpentry**
  - 1 hands-on skills assessment (highly comprehensive)
  - Written exam: Workforce Ready System (Carpentry)

- **Health Assisting**
  - 5 hands-on skills assessments
  - Written exam: Workforce Ready System (Nursing Assisting)

- **Plumbing**
  - 5 hands-on skills assessments
  - Written exam: State sanctioned Tier test or Workforce Ready System (Plumbing)

*Note*: The complete DDM is provided in Appendix A.
Lessons from the Field: Example of a Holistic Evaluation
Leslie Weckesser, Vocational/Technical Director
Southeastern Regional Technical Vocational High School

CVTE Programs: Applicable in Multiple programs; widely adaptable
Assessment Name: Capstone Portfolio and Scoring Rubric 2014
Item Types: Work samples collected over time

Description: End-of-year, capstone project for high school students in grades 9-12. Students in grades 9 and 10 compile shop portfolios. Grades 11 and 12 students produce a portfolio and a senior project to integrate and apply knowledge, skills, and understanding in their chosen shop. Four project and presentation rubrics are included for each school year from freshman to senior. For instance, the sophomore rubric captures student performance data on four components completed during the academic year:

Term 1: Vocational My Access assignment on a new skill learned in the student’s permanent vocational program. Students are encouraged to include photos of the steps/process/completed project. Students must obtain a My Access Score of 5 or above.

Term 2: Vocational My Access assignment on a new skill learned in the student’s permanent vocational program. Students are encouraged to include photos of the steps/process/completed project. Students must obtain a My Access Score of 5 or above.

Term 3: Complete a job application with all necessary information. Students must save a completed copy for their portfolios.

Term 4: PowerPoint presentation on a new skill learned in the student’s permanent vocational program. Students are expected to give a 5-10 minute presentation about what they learned. Vocational educator can use discretion in assigning topic. Students must also provide evidence of searching and applying for a summer job and save a copy of application for their portfolios.

Note: The complete DDM is provided in Appendix A.

Common Approaches to Measuring Growth: Post-Test Only
Description: A post-test only is a single administration of a measure of what a student knows and can do following instruction. It requires collection of additional information to measure growth. A post-test only approach typically involves use of traditional direct measures such as summative exams (unit exam, mid-term or final exam, end-of-year exam, or end-of-course exam) or non-traditional measures such as capstone projects. It also may use indirect measures (e.g., number of students electing more advanced courses in relevant content areas in subsequent years).
Table 7. Strengths and Limitations of Post-Test Only

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Often the best approach when a measure of achievement or performance can only be administered once (e.g., building a house). Also useful when an existing measure is strongly linked to instruction (e.g., curriculum-embedded assessment) or is a well-established external tool (e.g., certification exam, Advanced Placement test).</td>
<td>• Developers will need to consider how to capture baseline information within the same year or course and produce scores that could be compared to the post-test.</td>
</tr>
<tr>
<td>• Also useful when an existing measure is strongly linked to instruction (e.g., curriculum-embedded assessment) or is a well-established external tool (e.g., certification exam, Advanced Placement test).</td>
<td>• Districts need to think carefully about how they are measuring a student’s ability relative to where the student started.</td>
</tr>
<tr>
<td>• Single-year scores are not precise indicators of educator performance because results are confounded by cohort effect (i.e., different classes of students are systematically different for reasons not related to instruction).</td>
<td></td>
</tr>
</tbody>
</table>

Other Considerations

• Wherever possible, districts are encouraged to use other approaches to measuring growth.
• One approach to using a post-test only model would be to identify key knowledge or skills that are taught during the year or course and develop a baseline test/task or scoring method that allows educators to measure growth. The baseline test/task should be as similar as possible to the post-test in order to provide more confidence in interpreting growth results.
• It is critical to include additional information that helps predict the expected level of achievement, such as the difference from the previous unit’s test or the previous year’s graduation rate.
• A measure must be of exceptionally high quality in terms of content alignment and usefulness to justify this approach. DDM teams also will want to consider item quality, test length, accessibility for all students, and when and how the measure is administered and scored.

Lessons from the Field: Example of a Post-Test-Only Assessment

Leanne Lyons
Whittier Regional Vocational Technical High School

CVTE Program: Marketing

Assessment Name: General Industry Mid-Term Exam

Item Types: Selected response, constructed response, and performance checklist

Description: Marketing mid-term exam comprised of 100 selected-response items, 10 open-ended essay questions, and a performance task. Principles of marketing and customer service are assessed by this instrument. Multiple-choice items (#1-60) assess Strand 2 of the CVTE Frameworks, while items #61-100 assess Strands 1, 4, and 5.

Note: The complete DDM is provided in Appendix A.
**Final Decision-Making.** Overall, the DDM team will be looking for measures that are accessible to all students; that yield useful, meaningful results; and whose use can be justified to stakeholders in terms of benefit vs. cost. It is important for decision-makers to remember that the measures selected will benefit from review and refinement over time. As stated in a key ESE-developed resource,⁵

> When engaging in this work, do not let “perfect” be the enemy of “good.” Since districtwide implementation of many DDMs is new, it will take time to resolve every detail, such as nuanced questions about details of administration. The key focus is the use of measures that are meaningful and useful to educators at the classroom, school, and district levels. (p. 24)

CVTE educators and administrators have found WestEd’s *DDM Review and Discussion Guide* (see Appendix D-2) useful for determining the approach to growth that is associated with a particular assessment, evaluating an assessment’s usefulness as a measure of growth, and examining other considerations.

The anticipated outcome from Step G is a list of all assessments evaluated and decisions made about each in terms of its capacity to measure growth and its feasibility.

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**Lessons from the Field: Measuring Growth**

Tom Belland, Vocational Coordinator
Blackstone Valley Regional Vocational Technical High School

Comments from Mr. Belland about measuring growth:

> Through regional meetings over the last two years, Blackstone has been training CVTE administrators and educators in the use of instructional units, assessments, and growth rubrics tied to student portfolios used to earn a Certificate of Occupational Proficiency (C.O.P.). We believe that, with some refinement, the C.O.P.s show real promise for use as DDMs. So far, we have taken the 17 C.O.P. packages we created for Blackstone Valley between 2011 and 2013, and worked with several nearby districts to customize five of them for use as DDMs. [See Appendix B for samples of the C.O.P. DDMs for Automotive Technology, Carpentry, Health Assisting, and Plumbing.]

As we have worked together to strengthen modified C.O.P.s for use as DDMs, we are reminding CVTE colleagues that their proposed DDMs do not necessarily need to measure growth over the whole school year. A measure that shows that a student met expectations for progress for a particularly important curriculum unit, for instance, could be considered evidence that the student is on track to achieving expected growth in one year’s time. In this way, the formative assessments that educators use to inform instruction during the school year also can potentially be used as DDMs. Recent research confirms the power of interim assessments to improve both instructional practice and student learning, bolstering the case for considering common unit, interim, and quarterly assessments as strong candidates for use as DDMs as long as pre-test or baseline data are available.

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⁵ *Technical Guide B: Measuring Student Growth & Piloting District-Determined Measures.*
Marcia Kessler and Jackie Machamer, Vocational Coordinator, who are leading the DDM initiative at their school, have been working with academic and CVTE educators over the past four years to develop common assessments that integrate both academic content and technical skills. Ms. Kessler shared this insight:

Some would say that educators in Massachusetts suffer from “chronic implementation fatigue.” The new educator evaluation system requires educators to document evidence of their practice, and the DDM initiative for the Student Impact Rating is seen as another layer of additional evidence that they are required to collect. The DDM initiative has raised concerns and fears that educators will have to develop new assessments and will be judged using these new measures of student growth. However, educators and administrators should consider how they already know what their students can and cannot do and look at these indicators more closely to determine how their existing measures can be modified for use as student growth measure[s].
Lessons from the Field: Selecting the Most Promising Measures for Use as DDMs
Marcia Kessler, Technology Integration/Data Specialist
Old Colony Regional Vocational Technical High School

(Continued) While exploring assessment options and approaches for their district’s DDMs, Ms. Machamer and Ms. Kessler started with an existing assessment, a portfolio that was used as a summative measure, which they then modified for use as a repeated measure to demonstrate student growth. They are currently working with CVTE educators to develop a common rubric for the portfolio. They aim to modify the types of evidence collected and the time lines so that the portfolio can be used to monitor student growth at the beginning and end of each year and as a progression over four years as well. The portfolio will also be used with ELA educators as a repeated measure to reflect academic growth.

Ms. Machamer and Ms. Kessler are also working with educators at Old Colony to bridge academic content with technical skills through the development of a joint research project for grade 11 students. Grade 11 English educators and CVTE educators are developing a research paper that integrates ELA, technical skills, and employability skills; she is bringing together the English educators and CVTE educators to develop a common rubric to assess the research papers. The research papers will be used as a post-test-only performance assessment and will likely serve as one of the DDMs for the junior year.

Ms. Machamer and Ms. Kessler aim to assist CVTE educators in developing pre-test/post-test assessments for measuring growth in each program. They, as well as other members of the DDM team, plan to bring together educators in related career clusters to show them how to use the Edwin Teaching and Learning system to design pre-test/post-test assessments. Within Edwin, educators can easily select appropriate questions for their particular CVTE program, which are then grouped according to Bloom’s taxonomy to develop pre-test/post-test assessments. The competency tracking functionality in Edwin will also serve as a tool to assist CVTE educators in measuring student growth.

During the 2014 school year, the emphasis of educator professional development at Old Colony has been on curriculum development and DDMs. Mrs. Machamer and Mrs. Kessler have been working with both academic and CVTE educators to develop a curriculum guide that provides the key ideas and critical content aligned with the CVTE Frameworks so that students know what they should learn and be able to do in a given year of a program. The next step is to develop an assessment guide that will determine the best measures for the critical content. They aim for each educator to have at least one performance-based assessment and one traditional test for use as a DDM. The district has some very good measures in place, which will be modified for use as DDMs, that integrate academic and technical skills and that will hopefully serve as equitable and effective measures of student growth.
**Stage 4. Testing and Revising**

**Step H. Administer Selected Measures**

Once measures have been selected, the next step for the DDM team is to administer them. Initial administrations will help team members identify issues with technical quality or challenges with administration, scoring, or use of results. Schools or districts also can benefit from the opportunity to receive targeted feedback about how a DDM works in practice and how to improve the measure.

The anticipated outcome from Step H is data from initial administrations of the DDMs about the effectiveness of (a) particular assessment items or tasks, (b) overall alignment to instruction, (c) the current approach to measuring growth, and/or (d) administration or scoring guidelines.

### Key ESE-Developed Resources to Support Step H

- **Technical Guide A** (see especially p. 33)
- **Technical Guide B** (see especially pp. 6 and 21 and Appendices B and D)
- **Webinar Series #4** (slide 23) and **#5** (slide 29)
During the 2014 school year, Dr. Ananis has been working with CVTE educators on the development of DDMs and helping them to shift from using measures of achievement to measures of student growth. He decided to have his CVTE educators develop pre-test/post-test assessments in each of their programs for grade 11 students. After they considered the most critical content to be measured, they were asked to look at an existing end-of-unit assessment and develop a corresponding pre-test that was to be viewed as a snapshot or survey of what students know and can do at the beginning of the school year, and that could be used to inform instructional decision-making. His faculty have completed two rounds of tryouts that included pre-test/post-test assessments as well as some repeated measures. In most programs, the educators have reviewed results from the pre-test/post-test assessments and shared findings with their colleagues.

Dr. Ananis’s faculty have also piloted a rubric on 21st-century life and career skills, which is useful in demonstrating growth and shows promise for use as a DDM. Educators ask students to use the rubric to conduct a self-assessment at the beginning of the course and to help themselves become self-reflective. The educator then uses the rubric, over the course of instruction, to provide feedback to the student.

Dr. Ananis is now encouraging CVTE educators to try out other approaches (e.g., repeated measures or holistic evaluations). In certain programs—such as health assisting, in which students must pass a certification to become a Certified Nursing Assistant—a post-test-only approach is appropriate for the program area.
As the 2014 school year began, a team of three educators from Attleboro approached the district CVTE Director with their interest in piloting a proposed growth measure for use as a DDM. Ms. Edmonds took this as an opportunity to update her district professional development plans by incorporating elements of the DDM identification, selection, and evaluation process into the professional development (PD) days already planned for her vocational teams. By aligning and consolidating efforts, the professional learning activities for PD days in October and December 2013 were transformed into working sessions for teams of CVTE and academic educators to model their approach while enlisting and enrolling fellow educators in adopting a similar instrument within their classes.

From the end of November through the middle of December 2013, the three original educators and their teams piloted the instrument’s common administration protocols and common scoring rubrics, established cut scores, and discussed the test data results to evaluate how to transform measures of achievement into measures of growth, which are more suitable for a robust DDM. During the December PD session, educators convened to review the employability unit and to review data from the pilot trials in CVTE programs. They reviewed and analyzed the administration results as a group so that they could strategize how they could best use the information gathered to inform revision and refinement of their chosen employability measure.

As revised after the field test in December, the employability unit, *Communicating within the Career and Technical Field*, includes a pre-test and a post-test, each composed of 25 selected-response items covering three of the employability standards in Strand 4 of the CVTE Frameworks. (See Figure 3 in Section III for a preview of this unit.)
Step I. Revise the DDMs Based on Findings and Feedback and Engage in the Cycle of Continuous Improvement

Based on findings from the tryouts, the DDM team and other professionals will continue the process of improving the most promising DDMs. This may include modifications of the assessment itself and/or of supporting documentation, such as the administration protocol or scoring rubric. This information can help the DDM team make the adjustments necessary to ensure the long-term quality of the DDMs in use and to evaluate the results from the DDMs in comparison with results from DDMs used in other programs.

Cycle of Continuous Improvement. Since DDM development and implementation is an iterative process, CVTE programs will be committed to an ongoing cycle of testing, improving, and making adjustments to the DDMs, based on feedback. All DDMs are dynamic tools that should be reviewed on a regular basis and modified, as necessary, based on the information that emerges. Ongoing, systematic collection and review of feedback will result in improvements to the DDMs as well as to the materials supporting administration, scoring, and interpretation of results. Feedback from stakeholders may be collected through post-administration surveys that inquire about challenges encountered or concerns that have emerged, and/or about those elements of the DDM that were particularly strong or weak. Of particular interest will be feedback that provides evidence of usefulness and/or that describes intended or unintended consequences that may have emerged over time.

Continuous improvement is characterized by a cycle that includes selection and administration of a draft DDM, collection of information about the appropriateness and usefulness of the DDM, review of feedback from educators and other stakeholders, and modification of the DDM that addresses recommendations, from trusted sources, for improving the next iteration of the DDM. In a recent publication, ESE articulated specific guidance about the continuous cycle of improvement:

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Key ESE-Developed Resources to Support Step I

- **Technical Guide A** (see especially pp. 14, 26, and 35)
- **Technical Guide B** (see especially pp. 9 and 24 and Appendix G)
- **Using Current Assessments in District-Determined Measures: Leveraging the Curriculum-Embedded Performance Assessments from the Model Curriculum Units** (see especially pp. 9 and 12)
- **Webinar Series #2** (slide 50), **#6** (slides 7–31), **#8** (slides 9–21 and 29–40) and **#9** (slides 4–6, 12–20, 22, and 24–31)
- Implementation Brief: **Investigating Fairness**

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6 Implementation Brief: **Investigating Fairness**.
Districts should plan for the continuous improvement of DDMs over time. Part of this continuous improvement work will be focused on making improvements to DDMs that initial data suggest may produce significant systematic error. Sometimes, educators can make small modifications to the assessment that will go a long way toward reducing systematic error. For example, say a district uses one of the strategies described above to investigate fairness and finds that an assessment does not provide lower performing students an opportunity to demonstrate growth at the same rates as their higher performing peers [. . .] The educators working with the DDM might try adding additional easy questions to both the pre-test/post-test assessments, which will provide lower performing students opportunities to answer more questions correctly. As a result these students will be more likely to demonstrate growth at similar rates as other students [. . .] Systematic error may also be reduced by removing problematic questions. For example, if a question contains an unnecessary word that disadvantages one cultural group, this question should be edited. Analyzing student responses on a question-by-question level may help reveal problematic questions that can be modified or discarded. (pp. 6–7)

Existing ESE resources provide targeted guidance to help DDM teams and other stakeholders monitor the quality of their measures on an ongoing basis and make adjustments to support claims that an assessment is fair and results are useful for the purpose intended. These resources include tips, strategies, and recommendations for (a) monitoring sources of measurement error and minimizing potential sources of bias; (b) ensuring ongoing alignment to critical content at the level of rigor intended; (c) examining comparability of measures across programs; (d) determining what can reasonably be expected as one year’s growth; (e) evaluating the appropriateness of parameters set for low, moderate, and high growth; and (f) promoting responsible professional practices around data use.

The anticipated outcomes from Step I are a recommended set of local measures, for possible use as DDMs, which have been revised using feedback from small-scale tryouts. Additionally, the ongoing collection of feedback and data, through post-administration surveys of stakeholders, should be used to help inform continuous improvement plans and activities.
Lessons from the Field: Ongoing DDM Improvement

Dr. Mike Ananis, Executive Director
Rindge School of Technical Arts

Dr. Ananis’s team has made a number of modifications to the proposed DDM instrument, based on the findings from small-scale tryouts. One finding is that the CVTE educators on the team learned that they need to be more standardized in communicating the instructions for administering their assessments. To this end, they are now improving the assessment package in terms of supporting documentation, i.e., specific guidelines for test administration.

For example, for the Early Education & Care program, the educators used a repeated measure to assess clinical observation skills. Each student completed five observations over five months, and the educators used one quantitative metric and four qualitative metrics to assess each student’s clinical observation skills. They were able to demonstrate an improvement in students’ observational skills and to show growth with concrete evidence during the five-month assessment period. The educators realized that the administration of the assessment was very important for this type of performance-based assessment and was not detailed sufficiently. The educators then developed an administration protocol to guide the students throughout the length of their observations, to ensure consistency and comparability across each observation. This proved to be a very useful repeated measure that provided evidence of growth.

Lessons from the Field: Ongoing DDM Improvement

Marcia Kessler, Technology Integration/Data Specialist
Old Colony Regional Vocational Technical High School

Old Colony has experienced success in collecting, reviewing, and reporting on data from CVTE assessments with educators to learn and modify both curricula and assessments. Ms. Kessler has developed insight into the development of trust among educators and administrators who are working together to critically review test results. The school is proud to have fostered the development of an environment in which educators feel they can approach their director or DDM coordinator to ask for instructional support without negative consequences. Establishing this environment strongly positions the school to develop and implement DDMs with CVTE educators effectively.

For example, educators regularly review commonly used ELA assessments. During a recent review, staff noticed that students were scoring low on the ability to interpret the meaning of a word from the context, even though their educators explicitly taught them the meaning of the words on which they were tested via discrete vocabulary quizzes. They realized that students needed additional practice with contextual-analysis skills for interpreting meaning. Thus, they decided to revise the curriculum accordingly to specifically address these skills using a variety of literature and primary-source documents (e.g., famous speeches). They will continue this process of using assessment results to improve the assessments as well as to improve teaching practices.
Section III.

Lessons Learned from the CVTE Community: In-Depth Profiles

WestEd facilitators asked representatives from three CVTE programs if they would be willing to share their experiences with their colleagues in the field via this guidance document. These three programs are summarized in Table 8, and profiles of each follow. Each provides valuable lessons learned that may benefit other programs engaged in the various steps in the development and implementation of DDMs.

Table 8. Summary of Programs Profiled

<table>
<thead>
<tr>
<th>District Interviewed</th>
<th>District Representative</th>
<th>DDM Development Stage</th>
<th>Highlights from Interview</th>
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<tbody>
<tr>
<td>Attleboro Public Schools</td>
<td>Susan Edmonds, Vocational/ Technical Director, Attleboro High School</td>
<td>Stage 3: Evaluating</td>
<td>• Focus is on measuring Common Core content across 12 programs through two DDMs: one for competencies and one for employability skills.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Key decisions about DDM development and identification are educator driven.</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• Evaluating results of small-scale tryouts conducted in December 2013.</td>
</tr>
<tr>
<td>Southeastern Regional Vocational Technical</td>
<td>Leslie Weckesser, Vocational/ Technical Director, Heidi Driscoll, Director of Academics</td>
<td>Stage 4: Testing and Revising</td>
<td>• Focus is on measuring data literacy and employability skills districtwide.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Work is embedded in current teaching practice.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Decided to make strong use of performance metrics.</td>
</tr>
<tr>
<td>Tri-County Regional Vocational Technical</td>
<td>Jean George, CTE Director</td>
<td>Stage 4: Testing and Revising</td>
<td>• Focus is on measuring workplace literacy through DDMs for communications (Collins Writing Rubric) and employability (SkillsUSA).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Will be training administrators using WestEd’s DDM Review and Discussion Guide.</td>
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District DDM Profile #1. Attleboro Public Schools

CURRENT DDM DEVELOPMENT and IMPLEMENTATION STATUS: Stage 3: Evaluating
Representative: Susan Edmonds, Vocational/Technical Director, Attleboro High School

Over the past several years, Attleboro Public Schools undertook a number of Race to the Top (RTTT)–funded projects that include revising and aligning curriculum, helping educators implement new standards, and using data to inform decision-making at all levels. The experience gained from these initiatives is now being leveraged as the district forges ahead with the implementation of DDMs for educators in all 12 of its CVTE programs. The experiences described in this profile highlight the value of this type of integration if a district focuses on the right things: relevance, rigor, and relationships.

Integrating the DDM Development and Implementation Process with Other Valued Initiatives

Early in the 2013 school year, all departments were polled by the superintendent and asked to (1) identify what educators in each department and program taught in common, based on a careful review of the new CVTE Frameworks, and (2) identify what competencies all educators shared a collective and personal responsibility for teaching in the classroom and the shop. Based on the poll results, a consensus emerged for shared responsibility for developing students’ literacy and employability skills. Guided by this shared value, departmental professional learning communities (PLCs) have taken up the challenge of developing, testing, and revising DDMs. In the past year, each program has been asked to evaluate and test locally developed measures for use in a district-mandated employability unit that will serve as the basis for one of the proposed DDMs seeking to support workforce and career readiness.

With the new framework for educator evaluation and a clear focus on supporting teaching and learning, the district worked toward preparing educators for delivering more rigorous course material. A number of district educators and coordinators were invited to participate in the ESE project of writing Model Curriculum Units (MCUs). The district embraced this initiative—writing its own units, providing training to other educators, and piloting units in classrooms. Small-scale DDM trials at the departmental level have been ongoing since the fall term of the 2014 school year. CVTE educators subsequently incorporated curriculum-embedded performance assessments (CEPAs) into their vocational curriculum as part of a small-scale trial to explore the use of CEPAs as DDMs. From their trials, they learned how to customize their instrument for other content areas, while also discovering that their approach was feasible and welcomed by other vocational and academic faculty. Susan Edmonds, Vocational-Technical Director, noted the following:
This integration of content from several disciplines and the increased engagement that educators experienced while developing the CEPAs have been transformative for students and educators alike. Students can now demonstrate what they know and can do, while educators can more readily and comprehensively sample and measure the standards and skills students have attained or are in the process of developing more fully.

Ms. Edmonds’s CVTE colleagues also designed a CEPA focused on measuring employability skills (see the Attleboro employability unit in Appendix A). CEPAs’ performance-based approach to assessment makes them familiar and appealing repeated measures that academic and CVTE educators can readily use to improve literacy. Ms. Edmonds has found that these locally developed CEPAs can be powerful tools that help educators better integrate reading and writing into assignments and assessments in all subject areas. Across the district, professional development focused on ESE’s MCUs and the development of CEPAs has fueled much interest and joint effort by faculty who are eager to apply what they have learned through the DDM development effort.

**Evaluating Currently Used Assessments across Academic and CVTE Programs**

Toward the end of the 2013 school year, the district superintendent charged the district data coordinator with visiting each teaching department, whether academic or CVTE, to begin polling educators about their current inventory of assessments and tests, with the goal of identifying a few growth measures that could be used as DDMs. Each department was charged with identifying and recommending two measures to the superintendent.

**Table 9. Measures Currently Used at Attleboro High School**

<table>
<thead>
<tr>
<th>Employability and Career Readiness</th>
<th>Technical Skills Attainment</th>
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<tbody>
<tr>
<td>• SkillsUSA</td>
<td>• Industry certification (e.g., ServSafe©)</td>
</tr>
<tr>
<td></td>
<td>• SkillsUSA</td>
</tr>
<tr>
<td></td>
<td>• Competency tracking system</td>
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<td></td>
<td>• Local measures based on skills-based competency tracking</td>
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</table>

In response to the superintendent’s call to action, Ms. Edmonds mobilized a group of volunteers to form a task force that could help her department design and test measures for use as DDMs. Ms. Edmonds and the task force: 1) designed an instructional unit on employability and career readiness, and 2) created a curriculum, assignment prompts, and related instructional support materials (e.g., assessments, handouts, and worksheets). The task force decided to implement its DDM trials around this newly developed two-week employability and career readiness unit, with the objective of fine-tuning accompanying formative and summative assessment tools during the fall.
The district’s small-scale tryout plans called for all 12 CVTE educators to deliver the same unit of instruction to their grade 10 students during the second trimester of the school year. In December 2013, educators in all district CVTE programs delivered the same instruction and administered the task force–developed pilot assessments. Approximately 150 grade 10 students in 12 CVTE courses received instruction in the new employability unit and subsequently took the assessment created to accompany the unit. CVTE educators convened a data review meeting for their December PD, during which they increased their capacity to analyze and use assessment data by examining item p-values, point-biserials, and frequency distributions.

A sample of that employability unit, *Communicating within the Career and Technical Field*, is shown in Figure 3. The unit includes a list of the standards and key competencies intended to be measured, an instructional materials checklist, lesson plans, and pre-tests/post-tests.
Figure 3. Sample of Employability Unit and Assessment

<table>
<thead>
<tr>
<th>Strand 4 Unit Objective</th>
<th>Students will be able to show effective communication skills in the career and technical field using multiple modes of communication.</th>
</tr>
</thead>
</table>

Employability Standards Addressed:
- 4A. Develop employability skills to secure and keep employment in chosen field.
- 4B. Communicate in multiple modes to address needs within the career and technical field.
- 4D. Demonstrate positive work behaviors.

<table>
<thead>
<tr>
<th>Key Competencies</th>
<th>Instructional Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Reading and Writing</td>
<td>• Five-day curriculum (pre-tests/post-tests, handouts, &amp; worksheets)</td>
</tr>
<tr>
<td>• Oral Communication Skills</td>
<td>• Assignment #1: Mock Interview</td>
</tr>
<tr>
<td>• Active Listening Skills</td>
<td>• Performance and Product Rubrics</td>
</tr>
<tr>
<td>• Data Literacy</td>
<td>• Assignment #2: Draft Resume &amp; Cover Letter completion</td>
</tr>
<tr>
<td>• Workplace Etiquette/Protocol</td>
<td>• Assignment #3: Completion of a job application &amp; W-4 / I-9 forms</td>
</tr>
<tr>
<td>• Goal Setting</td>
<td>• Worksheet completion (“Get Serious about Goal Setting”)</td>
</tr>
<tr>
<td>• Self-Management</td>
<td>• Employability Assessment</td>
</tr>
</tbody>
</table>

Day One of Employability Unit: Major Activities / Projects / Lessons

- Effective Workplace Communication, Oral Communication in the Workplace, & Proper Phone Etiquette
- Activator: Have each student list 3 different types of people that he or she communicates with on a daily/weekly basis.
- Have students get into pairs to discuss, choose 3 out of the 6 total, and write down how they would address each of those 3 people.
- Square the groups of two and pass out “Flipping the Switch” worksheet. Give each group one situation to complete/act out/draw, etc. (their choice) for each type of person listed (or for each type of person that they came up with earlier).
- Upon completion, discuss each situation as a class, and the importance of proper oral communication depending on whom you’re conversing with.
- Pass out “Business Conversation Etiquette” and “Telephone Etiquette at Work” worksheets to each group of 4. Divide reading into 4 sections.
- Have each student read one assigned section, highlight important points, and discuss within their group.
- Then discuss as a class. Explain importance of proper oral communication in the workplace and various situations, including diversity in the workplace (e.g.: phone calls, formal meetings, informal meetings).
- Consolidating Activity: On an index card (or scrap paper), in complete sentences, have the students write down 3 new etiquette rules they learned/went over today in class.

Capitalizing on the Opportunity to Promote Effective Teaching Practices

According to Ms. Edmonds, the district sees educator evaluation as an opportunity to be forward-thinking and has used the DDM initiative to ensure that all other district efforts are focused on teaching and learning. “We didn’t want the DDM initiative to be an island,” she says. Administrators also knew they could not do this sensitive work alone. From the outset,
educators were seen as active partners. The district also embraced the local teachers association as a full partner and collaborated closely with them along the way to ensure that all educators were well informed and involved, using open dialogue and frequent communication—making it clear that the central purpose of the DDM initiative is to give educators constructive feedback to help them grow as professionals. Simultaneously, with a clear focus on supporting teaching and learning, the district worked toward preparing educators for delivery of rigorous course content.

**Applying Lessons Learned from Administering a Common Assessment**

The Attleboro DDM task force has learned a great deal about designing and developing formative and summative assessments as they worked to implement the new employability instructional unit and assessment. After their trial this winter, CVTE educators have been working to revise the unit and assessment to better accommodate lessons learned, as well as to further customize unit curriculum for each particular CVTE program. They have compiled a list of lessons learned that they hope will support development of a DDM for applied literacy and communications. Valuable lessons learned include the following:

- Task force members saw real value in measuring both knowledge (academic content) and technical skills (performance), but acknowledged that it is challenging to find the right balance between the two.
- For assessing academic content, multiple-choice and open-response items can be effective when used judiciously and strategically. Open-response items are best used to measure critical thinking and problem solving.
- For assessing performance, the task force sought to go beyond a simple checklist, as it does not capture the types of growth data needed for measuring educator impact on student learning. They found that hands-on demonstrations and/or practical problem-solving prompts are most effective (especially if already in use).
- Effective performance measures require strong rubrics with discrete performance levels described for each growth boundary. Rubric development should be conducted with input from industry advisors. Although it is challenging and time intensive, developing rubrics provides an opportunity for professional learning and promotes communication.
• Process maps, task lists, competency audits, and portfolio-/project-based evaluation rubrics will be familiar to most educators. It will be important, however, to ensure that the DDM measures growth and not just achievement.

• Attleboro Public Schools have multiple CVTE programs, and, to promote comparability across programs, the task force thought it was important to set a standard for cognitive demand across all measures used to assess technical skills attainment.

If all goes as planned, the task force will propose to the district superintendent that both the employability unit and a competency-based tracking system be adopted for use as the DDMs in all district CVTE programs.
Southeastern Regional Technical Vocational High School’s leadership team is excited to see where student achievement will go as a result of its efforts to implement the new educator evaluation system. According to Leslie Weckesser, Vocational-Technical Director, 

Growth in student learning is what all programs are focusing on in the [CVTE] classroom. Hence, looking at what we can do to ramp up academic achievement and technical skills attainment by using assessment data from our DDM efforts will be transformative. I know that if we get this data and the right tools in the hands of our educators, we can move mountains together. I am confident we can do it, because we have made substantial progress in our district.

To accomplish its goals, Southeastern will be relying on a number of existing strengths, each highlighted in the following sections.

Building on Existing Strengths: Data Integration Infrastructure

Southeastern is fortunate to have developed strong data collection, analysis, and dissemination practices over the last few years. Since 2008, Southeastern educators and administrators have used a district student information system (SIS Net) to keep track of key CVTE performance indicators. This student information system has evolved into a robust database of multiple measures of student academic achievement and technical skills attainment, including formal and informal measures for all 24 CVTE and regular programs. Annual student achievement and growth data for MCAS and other common assessments (e.g., senior capstone projects) are routinely reported and discussed during annual school induction. Over time, these data have been compiled into a report known across the district as the Vocational Performance Indicators Report. A sample of data from this report is shown in Figure 4.
Figure 4. Sample Vocational Performance Indicators Report

This report is reviewed by all educators during the first two weeks of school each year. Data are used for accountability purposes—at the educator, course, grade, and district levels—in many programs. The report has become a popular reference tool for educators and administrators when developing measurable objectives for annual performance reviews and for growth plan documentation, and as part of educators’ SMART goals.

This investment in technology has provided Southeastern educators with tools that enable them to leverage “teachable moments” that align and integrate higher-order thinking skills and applied communications skills (e.g., presentations, demonstrations) across the curriculum. District administrators are confident that, as their educators learn, engage, and immerse themselves in working with DDMs, they will discover that they have already been engaged in “temperature-checking assessment,” while embedding competency-based evaluation of technical skills attainment into daily classroom activities. The DDM development and implementation process will provide CVTE educators with an opportunity to work with both their colleagues and administrators to analyze student performance data and detect trends and patterns that may enable improvement of instructional practice. For this reason, Southeastern administrators anticipate a smooth transition to use of DDMs as measures of educator effectiveness.

To track student competencies, Southeastern currently uses SkillsPlus, but in the near future, the district looks forward to using Edwin’s enhanced features and the CVTE-specific tools that
Edwin will offer to support data literacy and evidence-based decision-making. The inclusion of the competency tracking functionality in the Edwin Teaching and Learning system, a tool that encourages CVTE educators to use the system, is an important and much-anticipated development. District administrators believe that shop educators, in particular, will find using the Edwin interface to track and monitor students’ progress toward proficiency in the standards contained in the CVTE Frameworks to be a productive and worthwhile exercise that will help inform and support their use of assessment data to enable differentiated instruction and tailored intervention for each student.

**Building on Existing Strengths: Existing Assessments and Current Initiatives**

Many of the direct and indirect measures considered by Southeastern for possible use as DDMs are familiar to educators. Since 2012, Southeastern’s CVTE and academic directors have found that the four models for Educator Plans recommended by ESE have proven easy to customize to support educators’ needs. Its educators are accustomed to a data-driven and evidence-based management approach that capitalizes on measures traditionally used to gauge program success and student achievement. These same measures are now being proposed for use to gauge educator effectiveness.

**Table 10. Measures Currently Used at Southeastern Regional Technical Vocational High School**

<table>
<thead>
<tr>
<th>Employability Skills and Career Readiness</th>
<th>Technical Skills Attainment</th>
</tr>
</thead>
<tbody>
<tr>
<td>• SkillsUSA</td>
<td>• Industry certification (e.g. SP/2)</td>
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<tr>
<td></td>
<td>• SkillsUSA</td>
</tr>
<tr>
<td></td>
<td>• Massachusetts State Board exams</td>
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<td></td>
<td>• Local measures for literacy and writing</td>
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About six years ago, declining achievement levels on MCAS, SkillsUSA, and industry credentialing exams prompted district administrators to implement an aggressive Response to Intervention program designed to improve literacy skills among at-risk students and to increase data literacy among faculty. After analyzing MCAS and employability assessment data, the district’s Evaluation Team was able to identify the source of the decline in student performance as being correlated to student reading ability. With the support of the district’s data analyst, the Evaluation Team was able to pinpoint exactly where CVTE students continue to experience challenges in meeting the reading standards. Unsurprisingly, the Evaluation Team discovered that the students who were having the most difficulty on standardized assessments such as MCAS and the Massachusetts English Proficiency Assessment (MEPA) were also students identified as needing remedial literacy interventions to support the development of applied communication skills, as measured by the four technical essays required each year of CVTE students.

Thanks, in part, to a Race to the Top (RTTT) award that has allowed the CVTE and academic directors to offer diverse and quality professional development programming around
assessment and data literacy, Southeastern is working hard to develop the literacy skills of its students. Each year all students (freshmen through seniors) are required to draft, revise, and submit four essay writing assignments for evaluation online through the My Access portal. According to Ms. Weckesser,

We have been working to embed literacy across the board in every area, whether it is history, mathematics, English, plumbing, engineering, or visual design. The district has long recognized the need to foster shared responsibility for literacy across [CVTE] and academic faculty. Efforts have been underway for over four years to provide educators with data that tracks the success of their students and their program, in the form of an annual report shared at the start of each school year, the Vocational Performance Indicators Report.

As shown in Figure 5, these efforts appear to be paying off as, in all but two CVTE programs (Graphics and Health Services), Freshmen Portfolio grades improved between the 2012 and 2013 school years.

**Figure 5. Comparison of Freshmen Portfolio Grades, 2012 vs. 2013**

Southeastern administrators have decided to align DDM initiatives to this literacy initiative. By making literacy a districtwide priority and a shared responsibility among all instructional personnel, school administrators hoped to foster interdisciplinary dialogue and collaboration between CVTE and academic faculties as a by-product of DDM implementation.

Early on, school administrators decided that they wanted to focus on identifying current measures that could be commonly used across the district and that would not entail additional logistical burdens on staff. They understand that they will need to model and scaffold the culture of assessment that they seek to realize. Preliminary reports confirm that district culture and teaching practice are slowly evolving, with thanks to the common metrics and rubrics underpinning the new evaluation system. They also suggest that slow but steady progress is being made in transforming the culture of teaching and learning by making it very clear that the purpose of using DDMs is to improve instructional practice.
Building on Existing Strengths: Making Professional Development a Priority

The 2011 adoption of the Massachusetts Framework for Educator Evaluation aligned nicely with the district’s already robust educator performance monitoring and tracking system. In fact, by that time, school administrators had been conducting annual classroom observations while also gathering and studying key performance indicators for both academic and CVTE students. School administrators had long used metrics from the Vocational Performance Indicators Report to inform goals and objectives within educator performance plans. So, when the new educator evaluation model arrived, requiring that educators earn two independent but connected ratings to identify the intersection of educator practice and educator impact, Southeastern was well positioned to implement use of both measures districtwide. Educators and administrators had become comfortable with using student performance data from MCAS and other indirect measures of student achievement to inform their instructional decision-making.

Using a cycle-of-inquiry approach (see Figure 6) to structure and animate their collaborations, CVTE and academic educators have focused their attention on unpacking the Standards for Literacy in History, Social-Studies, Science, & Technical Subjects in the Massachusetts English Language Arts Curriculum Framework for English Language Arts and Literacy (pp. 72–79). Their inquiry and discussion related to the literacy standards confirmed their opinion of the primacy of basic reading and writing competencies as foundational and gateway skills that all district staff shared a responsibility for, in some way, encouraging, enabling, and evaluating. Director of Academics Heidi Driscoll, who is leading the development of the CVTE Model Curriculum Units (MCUs), is pleased with the strides and gains that her teams have made, and reports that “educators say this collaboration in unpacking the standards and developing MCUs has changed the way they teach and will help inform how they approach DDMs. RTTT-funded PD has offered automotive, carpentry, culinary, early education and care, and health services educators an opportunity to facilitate curriculum design groups and to collaborate with academic educators in planning, teaching, assessing, and documenting lessons.” For CVTE educators, this pedagogical focus is a huge but critical shift in teaching practice, which school administrators plan to support, scaffold, and sustain.

School administrators have thoughtfully and deliberately worked to embed multiple opportunities for educators to take greater ownership of the DDM development and
implementation process through professional learning communities and circles of inquiry established to address achievement gaps. Additionally, through the normal course of work each year at common-planning-time meetings, during PD half-days, during one-on-one consultations and observations, and at other district convocations, district administrators have prioritized increasing data and assessment literacy by structuring discussions around student performance data and program metrics, such as the number of co-op placements made by a CVTE program or the number of certification or licensure examinations passed by CVTE students each year. Each professional learning touchpoint is designed to offer educators meaningful and timely feedback, while guiding them through collaborative activities designed to support professional growth around DDMs and a process of continuous improvement. Because all educators participate in the same evaluation process, with a focus on continuous improvement to promote growth and development, district administrators feel that its educators and students are “all in” and well positioned to learn and make the most of DDM implementation while aligning and integrating other valued reforms to improve educator effectiveness and close achievement gaps.

Planning for Districtwide Tryouts

When it came time to explore and evaluate measures of student growth and achievement for use as DDMs, the district had both formal and informal existing measures to consider. Because the district had been working to develop both literacy and employability skills as means to boost and bolster student achievement, it had already considered what core content to teach, what skills to evaluate, and how to measure skills attainment over time. Having an extensive database of information derived from multiple measures of student performance data collected since 2008 offered the district a leg up in understanding where it needed to focus its efforts.

The district’s evaluation team is composed of CVTE and academic educators, administrators, and union representatives who have been working together to support students and educators for many years. Because union representatives, educators, and district administrators are all involved in a common, districtwide planning process and have a voice in the outcomes and expectations set to measure performance, the district has enjoyed a smooth transition to the new educator evaluation system.

By June 2014, the district superintendent will propose using two DDMs for all professional staff, both related to improving literacy, with one being the Scholastic Reading Inventory (SRI). As Ms. Driscoll notes of SRI,

> Every academic, vocational, and technical educator uses this measure. It is already embedded in our daily routine and used to set educator performance goals. It is not a scary new practice. So it was a natural to become our first DDM. We have been fortunate to be able to leverage processes and structures that have been in place for some time. The task would have proven more daunting otherwise.

The other measure is yet to be determined, but given the ample number of direct and indirect measures already tracked at Southeastern, the Evaluation Team members feel confident that
they will readily settle upon a second DDM (see the 2012-13 Vocational Performance Indicators Report in Appendix A). The Evaluation Team is reviewing results from this year’s SRI administration to help inform its selection of a second districtwide DDM. The first option would be to use an end-of-year portfolio or capstone project assembled by students in My Access, which samples various work products and artifacts including a technical writing assessment, as a DDM. The second option would modify the first by limiting the capstone project or portfolio’s contents to only writing assignments or only vocational work samples.

The Evaluation Team will be considering which approach to take in the coming months. The appeal of using the full portfolio as a DDM is its comprehensive sampling of core content over an entire year, while the appeal of using the end-of-year capstone project is that it focuses attention on applied communication skills development. School administrators acknowledge that either choice involves trade-offs: the portfolios entail greater logistical complexity and learning impact, while the capstone project engages industry partners and tradespeople, who could serve as raters and judges on project evaluation committees in the future.
CURRENT DDM DEVELOPMENT and IMPLEMENTATION STATUS: Stage 4: Testing and Revising
Representative: Jean George, CTE Director

According to the Tri-County Regional Vocational Technical High School (Tri-County) Student Handbook,

Tri-County Regional students experience an education that blends academic and vocational/technical instruction. To facilitate this integration, vocational/technical educators include academic instruction in their vocational/technical training and academic educators use vocational contexts to frame classroom instruction as well. As a result, students who wish to pursue higher education are able to meet the admissions criteria for state and private colleges and universities. Students who intend to pursue full time employment have competitive job skills in addition to the mathematics and communications skills that the modern workplace requires.

As a Race to the Top (RTTT) district, Tri-County was able to leverage its existing school-management structure to integrate and align DDM identification and selection as a component of the district’s ongoing educational reform agenda. As a result, Tri-County has adopted a labor-management team-led approach to DDM selection and implementation, allowing CVTE educators to partner with academic-department peers to work on piloting instruments to measure employability and writing to text at the high school level.

Shared Focus on Communications and Employability Skills

From various stakeholder interactions, district educators learned that employers, co-op partners, and community members were placing a much higher premium on effective communication skills and a strong work ethic than on the demonstrated attainment of technical skills alone. Industry and local business stakeholders also see attitude and emotional intelligence as desirable traits for future CVTE graduates. Guided by input from industry and district focus committees, Tri-County administrators embarked on a project to infuse workplace and technology literacy into all aspects of the district’s academic and CVTE curricula. This became even more important as instruction across the district transitioned to instruction based on the new curriculum frameworks and the Partnership for Assessment of Readiness for College and Careers (PARCC) assessments. The high expectations of this transition energized district administrators to bring before their faculty and staff the challenge to help integrate the dual imperatives of the DDM initiative—to measure student growth and to measure educator impact—while also continuing to focus on developing their students’ knowledge and skills.
**Table 11. Measures Currently Used at Tri-County Regional Vocational Technical High School**

<table>
<thead>
<tr>
<th>Employability Skills and Career Readiness</th>
<th>Technical Skills Attainment</th>
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<tbody>
<tr>
<td>• ASVAB</td>
<td>• Industry certification (e.g., NATEF)</td>
</tr>
<tr>
<td>• SkillsUSA</td>
<td>• SkillsUSA</td>
</tr>
<tr>
<td>• Massachusetts State Board exams</td>
<td>• Massachusetts State Board exams</td>
</tr>
<tr>
<td>• National-level assessment (e.g., OSHA Safety)</td>
<td>• Local measures for literacy and writing</td>
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</table>

The district had already been exploring opportunities to address long-standing gaps, identified by MCAS scores and CVTE educators, in soft (employability) and hard (writing) skills, so the district undertook the DDM effort as its vehicle to further strengthen literacy and career readiness across all CVTE courses. District staff were able to leverage work already underway for other initiatives and to integrate DDM piloting and fine-tuning as additional steps in their existing efforts to prepare the district to serve as a PARCC field test site in the spring of 2014.

District administrators charged all departments with identifying measures that held promise for use as DDMs, while remaining mindful of the need to prioritize instruction focused on communications and employability skills. While departmental consultations proceeded during the school year, district administrators took the lead in formulating a framework for the district’s DDM efforts. Each department would serve as a laboratory of practice that would contribute CVTE and academic elements to the district’s DDM framework. This joint activity across the district enabled administrators and educators to take stock of what was already being taught, measured, and reported by CVTE programs. Tri-County educators rely on three sources of information to help guide their DDM action research: their own past instructional practice, their students’ performance data (e.g., patterns and trends), and their community’s opportunity structure and economy.

In September 2013, Tri-County responded to Commissioner Chester’s call for piloting of promising DDMs with two submissions designed to provide Tri-County educators with robust assessment options during the 2015 school year. These two measures are designed to measure student learning and growth in two critical competencies: writing to text and employability. While district educators hope that authentic, locally developed DDMs will be developed in the years ahead, they are united in their commitment to pilot existing tools that focus on communications and employability skills.

According to Jean George, CTE Director,

> When I served on the CVTE Frameworks drafting review committee in 2012, all of us shared a vision for crafting the CVTE frameworks in such a way that they called for the integration of academic skills, employability skills, and technical skills across our entire CTE curriculum. Our educators have been doing a great job of embedding formative and benchmark assessments into instruction as a result of continuing work under a RTTT grant.
In fact, we have even started trying our hand at using CEPAs, or curriculum-embedded performance assessments, that we have borrowed and modified from the Model Curriculum Units (MCUs) for Culinary Arts on Food Safety and Sanitation, provided by ESE. During future professional development days, we hope to guide educators toward refining instruments that will share common protocols for administering, scoring, interpreting, and reporting across the district for all Chapter 74 programs. But for our maiden voyage with DDMs, we have chosen two measures that address previously identified achievement gaps across our student body in the domains of career readiness, specifically employability skills, and literacy, more generally.

**DDM #1: A Measure of Communications Skills**

DDM #1 is a holistic evaluation that makes use of a writing rubric developed by Collins Education Associates to evaluate growth in writing and argumentation abilities among all of Tri-County’s grade 10 students (approximately 210 students).

Ms. George’s preferred approach to moving DDM efforts forward is to engage faculty in deep thinking during professional learning opportunities and to leverage the meetings that she currently has with CVTE administrators and educators across the Commonwealth as opportunities to discuss DDM development and implementation options. Her recent efforts have been focused on research-based strategies for teaching and assessing writing, with the goal of preparing educators for DDMs that measure students’ growth in literacy. The approach has been a boon to shop educators who are strong technical educators but often lack the educational background to feel fully comfortable and confident in teaching embedded writing skills as part of technical skills attainment.

The standardized approach to writing instruction and evaluation provided by the Collins Writing Program, Ms. George discovered, has offered CVTE educators the scaffolding, tools, and supports that they need to foster greater communication fluency among their students. Educators in the academic content areas initially expressed reservations about the prescriptive, “process-focused” techniques that Collins recommends, but after working with the new rubric, they have come to appreciate the shared vocabulary and holistic approach to evaluating writing. In addition, now that dialogue among academic and CVTE educators is more focused and directed toward improving literacy skills as a shared responsibility, these educators have moved toward exploring a collaboration in the rating and scoring process. Now, in many instances, both an academic educator and a CVTE educator rate writing assignments using a set of common holistic rubrics that establish performance levels at every grade and competency level.
**DDM #2: A Measure of Employability Skills**

DDM #2 is the SkillsUSA Employability assessment, a pre-test/post-test measure that is administered annually in September and May to all Tri-County grade 11 students (approximately 230 students).

According to Ms. George, one of the benefits of using SkillsUSA is that it promotes good teaching practice. She says that faculty frequently come to her asking if they may update the CVTE competency lists by adding new items or deleting those that are now dated, and that faculty really want the competency lists to reflect what the students did and how well they did it. In the past, the competency lists had been updated only every few years; now this is done on an ongoing basis. She credits SkillsUSA as having provided educators with the information they need in order to keep the competency lists up to date with industry needs and expectations.

Since its introduction in Tri-County more than a decade ago, SkillsUSA has provided the district with a comprehensive, easy-to-use, Web-based solution for maintaining, tracking, and reporting skills-based CVTE curricula and tracking the progress of students as they attempt to achieve levels of competency. Augmenting the SkillsUSA assessment data, Tri-County also leverages the SkillsPlus system to allow vocational educators to more easily manage skills and student data, record competency achievement and earned hours, and set up and manage individual competency lists based on Individualized Education Program (IEP) plans. In Tri-County, as in many other CVTE districts, students who require IEP plans routinely comprise 40 percent or more of the student body. Common tools, technologies, and processes lessen administrative burdens.

Tri-County’s goal over time is to collect sufficient data to provide robust impact ratings for CVTE educators that reflect their work around employability. This effort will capitalize on common tools and processes, such as those offered in the district’s learning management system. During the last year, Ms. George reports that she and her team “have embedded DDM implementation into our overall management strategy, and have decided to try out two measures that capture what we’re already doing and will be doing to support literacy and soft-skills development.”

**Focus on Professional Development**

The district’s CVTE team pursued a plan of action that will allow a cadre of lead educators from a variety of programs to provide scaffolding and tools, along with direction and guidance, to classroom educators during the DDM roll-out process. Following small-scale tryouts, these lead educators will work directly with classroom educators to take on the task of refining selected common assessments and tailoring them to fit the specific needs of their vocational or technical areas. By building on lessons learned from RTTT implementation, Tri-County administrators have been able to quickly and efficiently mobilize this group of lead educators around the DDM
work. Ms. George plans to use the next scheduled professional development release day to prepare a second cadre of educators to engage in DDM improvement work using a train-the-trainer approach. Her goal is to build the assessment literacy capacity of a variety of Tri-County educators, who will, in turn, provide training and support on DDM development and implementation to classroom educators in other programs and courses.

**Role of Technology**

Technology has been an integral part of the Tri-County culture. Historically, educator training in technology use has been provided during four regularly scheduled, required professional development half-days offered to faculty each year. Since the district adopted itslearning and SkillsPlus over a decade ago, each software program has long enabled educators to provide the necessary assessment feedback to students and parents, using an online learning management system. Students are also trained in the use of these technology platforms, allowing them to become accustomed to the electronic submission and tracking of assignments and assessments. Moreover, students are required to use technology throughout their programs of study, and especially within a performance-based capstone project at the end of the senior year of high school, in which students have to present a visual articulation of their research and findings to a panel of judges. All of these logistics take place online. According to Ms. George, itslearning helps CVTE educators to record and capture what their students are learning, while providing them with robust tools to analyze and report student growth metrics to students and parents. This platform allows educators to use curriculum-embedded performance assessments (CEPAs) that they develop and upload into the system for each course and student. By the end of next year we hope to have trained the entire CVTE department.

Ms. George speaks for her faculty when she reports that “we have worked very hard under [No Child Left Behind] to align and integrate instruction around strong ELA and mathematics measures for which we provide our students and educators the necessary scaffolding, instruction, and assessment infrastructure, employing itslearning.” This online toolkit offers Tri-County educators and students an online K–12 learning management system that enables CVTE educators to better facilitate instructional delivery and engage today’s digitally “wired” students. All district academic educators have adopted itslearning, and many educators have been using it for more than five years. Only about half of the 44 CVTE educators are currently using itslearning. Plans are underway to require its use across all CVTE programs.

Experience with itslearning over the last decade has enabled district educators to gauge the level of student engagement by the number and frequency of homework submissions throughout the CVTE course of study. Because these students are “digital natives” who are comfortable using technology, they have readily adopted the itslearning system as a means of submitting their homework assignments on time. They can work online, submit assignments
online, and use the system to communicate with their educators, all from the comfort and safety of their home computers, tablets, and other devices.