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Making Mastery Work

A Close-Up View of Competency Education

Full Report

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Commissioned by the Nellie Mae Education Foundation

November 2012

Acknowledgements

The authors would like to thank the many teachers, principals, network leaders, and school staff, who shared their experiences with us in a spirit of exploration, generosity, honesty, and integrity throughout the 18 months of this project. Your collective vision and tenacity in an emerging and sometimes confusing field, combined with your willingness to roll up your sleeves and do the hard work, continue to inspire us. We'd also like to thank Eve Goldberg and Beth M. Miller, who served as our Program Officers at the Nellie Mae Education Foundation. They designed this project as a pathway to learning more about a critical, emerging approach in education and we were fortunate to be able to carry out a truly "R&D" project. Finally, we are especially grateful to the many students who shared their work, their insights, and their learning with us—you are the true pioneers.

However, the views expressed in this report are those of the authors alone. Any errors in fact or omission are solely the responsibility of the authors and the Nellie Mae Education Foundation.

Note

This publication is based on research funded in part by the Bill & Melinda Gates Foundation. The findings and conclusions contained within are those of the authors and do not necessarily reflect the positions or policies of the Bill & Melinda Gates Foundation.

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The Nellie Mae Education Foundation is the largest charitable organization in New England that focuses exclusively on education. The Foundation supports the promotion and integration of student-centered approaches to learning at the middle and high school levels across New England. To elevate student-centered approaches, the Foundation utilizes a strategy that focuses on: developing and enhancing models of practice; reshaping education policies; increasing the body of evidenced-based knowledge about student-centered approaches and increasing public understanding and demand for high-quality educational experiences. The Foundation's initiative and strategy areas are: District Level Systems Change; State Level Systems Change; Research and Development; and Public Understanding. Since 1998, the Foundation has distributed over $110 million in grants.

Suggested Citations:

Priest, N., Rudenstine, A., Weisstein, E. and Gerwin, C. (2012). *Making mastery work: A close-up view of competency education.* Quincy, Massachusetts: Nellie Mae Education Foundation.

Priest, N., Rudenstine, A., Weisstein, E. and Gerwin, C. (2012). *Making mastery work: A close-up view of competency education. Executive summary.* Quincy, Massachusetts: Nellie Mae Education Foundation.

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Executive Summary

A Close-Up View of Competency Education

One goal of a competency-driven program is to provide an educational model that can spark interest in learning and inspire a wide range of students to reach their potential.

NORA PRIEST | ANTONIA RUDENSTINE | EPHRAIM WEISSTEIN | *with* CAROL GERWIN

Executive Summary

The traditional system of moving students ahead to the next grade level after nine months of school seems less relevant each year. This is a reason for the growing appeal of competency-based learning, or competency education.

Schools face unprecedented pressure to close achievement gaps and prepare all students for college or careers. The needs of the global economy, the demands of No Child Left Behind, and the requirements of the Common Core State Standards—combined with persistent educational disparities by race and class—cry out for a fundamentally new approach to K–12 education. Teachers are grappling with the need to reach each student with instruction that is more individualized than at any other time in our history. The traditional system of moving students ahead to the next grade level after nine months of school seems less relevant each year. This is a reason for the growing appeal of competency-based learning, or competency education. Today's graduates must be able to apply skills and knowledge in order to succeed in college or land a job, climb a career ladder, and earn a family-supporting income. While just going through the motions of school, getting by with "C" and "D" grades, was never optimum, it is now more than ever a dead-end for students and society as a whole. These are some of the reasons for the growing appeal of competency-based learning, or competency education, in which students progress at their own pace, based on what they can show that they know.

The idea of moving to a system built on demonstration of mastery, rather than a required amount of time in a classroom, is drawing renewed interest from educators and policy makers alike. Competency education is rooted in the notion that education is about mastering a set of skills and knowledge, not just moving through a curriculum. In competency education, students keep working on specific skills or knowledge until they can demonstrate their understanding and ability to apply them; they then move to the next material while continuing to use what they have already learned. Students cannot advance simply by showing up to class on a sufficient number of days and earning a grade just above failing. Instead they must meet standards (also known as competencies, performance objectives, or learning targets) at a pre-determined level of proficiency.

SNAPSHOT: The Project and The Schools

With support from the Bill & Melinda Gates Foundation and the Nellie Mae Education Foundation, the Proficiency-Based Pathways Project awarded grants in March 2011 to seven projects representing a range of competency education models. Two organizations were intermediaries working with more than one school, allowing a total of 11 schools to be studied.

All are small public high schools, with fewer than 600 students. They are located in rural, suburban, and urban areas, including inner-city neighborhoods of Boston and Providence. The schools are listed, with the particular focus of each, in the table below:

Schools	Focus
Big Picture Rochester in Rochester, Vt. and **Big Picture Depot Campus** in Storrs-Mansfield, Conn.	A high school model based on a highly personalized approach to learning. Known for its full-time advisory structure and careful blending of school, workplace, and community-based learning activities.
Boston Day and Evening Academy in Boston, Mass.	An alternative public charter high school serving overage Boston students; fully based on competency education. Well known in region for work on developing a competency education assessment system.
Casco Bay High School in Portland, Maine. (Supported by the Expeditionary Learning Network.)	A high school of choice for 275 Portland students, now in its seventh year, in which Learning Expeditions (in-depth projects) drive instruction.
Champion High School in Brockton, Mass.; **Charlestown High School** in Charlestown, Mass., and **E-Cubed Academy** in Providence, R.I. (Supported by Diploma Plus.)	A national alternative high school/program network designed specifically for struggling students from urban settings, typically overage and under-credited. Longtime leader in competency education-friendly technology systems.
Gray-New Gloucester High School in Gray-New Gloucester (MSAD15), Maine.	The district has been implementing competency education for over four years at the elementary and middle school levels. It is now being piloted at the high school level.
Medical Professions and Teacher Preparation Academy in Hartford, Conn. (Supported by the National Center on Education and the Economy and Capitol Region Education Council)	A dual-themed magnet school serving a diverse group of formerly struggling grade 6–10 students drawn from Hartford and surrounding areas.
Vergennes Union High School in Vergennes, Vt.	A rural grade 7–12 regional school serving 600 students. The middle school uses expeditions and exhibitions to frame student learning. The high school is creating a competency education program, building on the middle school's foundation.

In contrast to the traditional model of advancing at the end of a unit or course, students move ahead as soon as they are ready, at any point during the year. Supporters say this far more effectively promotes learning and increases achievement. It does so by allowing students to proceed at their own pace in every subject and enabling teachers to respond to individual needs, interests, and challenges in every class.

While competency-based principles have a history in vocational education, a growing number of typical high schools now are adopting competency-based programs. As is typical of any emerging field, a wide array of approaches is currently underway. This report focuses on the experiences of students, teachers, and administrators in a select, but varied, group of schools that are ahead of the curve in implementing competency education (sometimes called proficiency-based pathways).

A team of researchers spent a year and a half examining 11 high schools in New England that already had started this work and wanted to expand their efforts. (See SNAPSHOT: The Project and The Schools.) The authors provide a window into state-of-the-art strategies in New England and across the country. The report documents each school's experiences, highlighting the key components, benefits, and challenges of the work already done and the work left to do.

Key conclusions from this project include:

- Competency-based approaches have two distinguishing characteristics: 1) a clear, measurable definition of mastery, along with procedures and tools for tracking that mastery and 2) the flexible use of time.
- Many students find competency education more motivating and engaging than traditional approaches. The chance to progress at one's own pace is particularly important to struggling students.
- Time-based policies and systems from schedules to contracts to credit systems—at both the district and state level often pose challenges for those implementing competency-based designs. But educators are finding ways to create flexibility, often starting within familiar structures but looking for strategies to support more individualized pacing.
- There is no single blueprint or well-established menu of instructional products geared for competency education initiatives, so teachers often face the benefits and the drawbacks of designing their curriculum and instruction from scratch.
- The biggest logistical challenge to creating competency-based initiatives is the lack of high-quality data and technological tools to assess and monitor student progress that are tailored to each initiative's specific approach.
- The expansion of competency education is likely to benefit from a number of new favorable conditions.

What is Competency Education?

Competency-based programs can and do differ from each other in many respects, from the student populations they serve to the pedagogy they practice. However, two features distinguish competency education from other approaches: 1) A clear definition of mastery, along with systems for tracking student advancement; and 2) A commitment to flexible uses of time and individualized pacing.

In these fundamental ways, competency education challenges the traditional structure of the American school system. For more than a century, U.S. schools have relied on the concept of the "Carnegie Unit," or "credit," to determine student progress. Course credit is awarded for meeting "seat-time" requirements and earning a passing grade of "D" or higher. Students graduate upon completion of a mandated number of hours in a required set of courses aligned with state

SNAPSHOT: Key Characteristics of Competency Education

1 Students progress at own pace

- Transparent system for tracking and reporting progress
- Flexible, learner-centric use of time, often beyond standard school day and year
- Explicit methods for providing additional support or opportunities for learning

2 Graduation upon demonstration of mastery of a comprehensive list of competencies

- Courses designed around set of competencies aligned with Common Core State Standards
- "Credit" awarded upon mastery of competencies associated with course or smaller module, based on summative assessments
- Transparent system for tracking and reporting progress

3 Teachers skilled at facilitating differentiated learning environments

- Frequent formative assessments provide real-time feedback to students and teachers on progress toward competencies and help guide instruction
- Development of robust approaches to supporting students as they move through competencies, especially those who progress slowly

standards and, soon, the Common Core State Standards. Annual school calendars and daily schedules revolve around this basic idea.

In competency-based schools, by contrast, students graduate after they are able to demonstrate mastery of a comprehensive list of competencies that are aligned with state standards and/or the Common Core State Standards. Some schools offer multiple opportunities to enroll or graduate each year. Course "credit" is granted for mastering the competencies, or smaller learning targets, associated with a course. Summative assessments are aligned with competencies and may be taken whenever a student is ready to demonstrate mastery. (See SNAPSHOT: Key Characteristics of Competency Education.)

It is important to note that, in practice, competency education models can be understood as existing on a continuum. While the philosophical ideal may be for every student to advance based solely on mastery, not all schools adopting competency-based learning principles do this. Some value group learning and a sense of classroom community as much as purely individualized progression. Schools with different populations, policies, and student needs lead to distinct versions of competency education. However, all of the schools in this project are looking at mastery approaches and considering the benefits for their particular initiatives.

Motivating a Wide Range of Students

One goal of a competency-driven program is to provide an educational model that can spark interest in learning and inspire a wide range of students to reach their potential. In conversations with students at competency-based high schools, the young people were passionate, articulate advocates for their schools.

Students explained that they are engaged and motivated by competency education for a few, clear reasons: They know exactly what is expected of them, and yet exercise a great deal of control over their

own learning. The freedom to set one's own pace and focus on learning gaps is particularly important for students who struggled in previous settings. At schools with highly flexible schedules, the ability to decide when and where to learn can contribute to students' commitment to do their best.

For example, **Boston Day and Evening Academy,** an alternative school for under-credited and over-age students, is designed to provide students with maximum flexibility as they set their course to graduation. Each student has a variety of options for working on learning targets—traditional coursework, online classes, independent studies—and most experiment with different paths and schedules until they find the combination that meets their needs.

The self-pacing allows students to start where they are. This has helped 19-year-old "Luis" to thrive. Taking day and evening courses, he has moved quickly through benchmarks, "testing out" of several classes. "Monique," who has learning disabilities, has been moving much more slowly, particularly in math. However, while retaking several math modules, she can continue meeting learning targets in other subjects.

SNAPSHOT: Learning How to Self-pace

Enabling each student to learn at a comfortable, yet challenging pace is essential to competency education. But it is not easy for everyone to figure out this balance. Some students find the freedom inherent in competency-based programs to be overwhelming at first. The need to self-regulate can pose a challenge to young people who never learned these skills. Several schools have established clear "Habits of Work"—to help guide students in using their time effectively and understanding what accountability looks like in the professional world.

Schools with more traditional populations stirred similar enthusiasm. At **Vergennes Union High School,** 10th graders described a great sense of pride and accomplishment that they always have time to produce work at the highest level possible. Rather than feeling stressed and then forced to stop by arbitrary deadlines, they persist at tasks until they feel they have done their best work.

Casco Bay High School students, who use an Expeditionary Learning framework, which focuses on community-based learning and "authentic" real-world experiences, are particularly excited about their "intensives." Twice a year, students complete a week-long intensive study of a single subject and then present their work to classmates in a public "exhibition." The topics are as varied as student passions and are shaped by student learning needs. Last year, one performing arts group wrote songs and performed them in their band. Another group learned about textiles, undertaking sewing, knitting, and other hand-work projects. The presentations were humorous, compelling, and connected to the real world, and emphasized the school's commitment to sharing learning experiences. The students were confident and fully engaged.

At Casco Bay, as in the other schools discussed here, students have authentic opportunities to lead, make decisions, manage their own learning, and facilitate the learning of others. The words and actions of these students reveal that competency education is not just a theory promulgated by adults, but a powerful factor in student experience, one in which they are deeply invested and engaged.

Finding Flexibility in Traditional Schedules

All of the schools have wrestled with the relationship between time and learning. Some reorganize the school year and school day. Despite their many differences from traditional schools, most competency-based programs actually work within the familiar constructs of daily bell schedules and two or three terms per year. The rigidity of district, state

Table 1: What Distinguishes Competency Education?

Competency Education	Traditional Education
Students graduate after they are able to demonstrate mastery of a comprehensive list of competencies (also broken down into learning targets or benchmarks).	Students graduate upon completion of a mandated number of hours in a required set of courses.
Courses are designed around a set of competencies or learning targets that are aligned with state standards and the National Common Core Standards.	Courses are designed to align with state standards and the National Common Core Standards.
Course "credit" is received by mastering the competencies associated with the course or a smaller module.	Course credit is received by meeting seat-time requirements.
Each competency is assessed on a rating scale (such as letter grades, or terms such as "Highly Competent," "Competent" and "Not Yet", or "Exceed", "Meets" or "Doesn't Yet Meet" the standard). Where effort or work habits are reported, they are typically maintained as a separate grade.	Course completion is assessed with a culminating grade composed of weighted averages of completed assignments (such as tests, homework, quizzes, labs), "effort" (organization, preparedness, and "attitude" are typically included in this component) and timeliness (students are typically penalized for turning in work late, arriving to class late, or missing school).
Students progress at their own pace.	Students complete coursework together.
Students are placed in courses based on the data mined from diagnostic assessments.	Students are placed in courses based on their age, grade-level and/or prior performance.
Assessments are aligned with competencies, and may be taken whenever a student is ready to demonstrate mastery.	Assessments are aligned with course calendars, and are taken when units of study are complete.

and federal regulations on the subject, combined with the conventional wisdom that "this is how it's always been done," make it difficult to make major structural changes. However, educators at each site have figured out creative ways to use time flexibly within broader constraints.

Big Picture Learning, which provides a fully personalized program under the mission "the education of a nation, one student at a time," has developed the most flexible schedules of the schools studied. The model evolved from the belief that students learn best when they are learning about phenomena that intrigue them, and that what intrigues them should be explored where—and when—it occurs. Each student's daily schedule is unique, designed with support from a faculty Advisor, and includes out-of-school internships, independent studies, support from out-of-school mentors, and projects. The yearly school calendar also is unique, with time reserved for quarterly student exhibitions in front of a public audience in order to demonstrate mastery of learning targets.

Each grade at Casco Bay has extended block periods daily to make it possible for students to do fieldwork for expeditions (long-term, in-depth studies of a single topic that explore vital guiding

SNAPSHOT: Instant Performance Tracking

Diploma Plus has made a large investment in developing a customized learning management system. It is designed to provide both students and teachers with up-to-the-moment data about student progress on competencies: each time a teacher posts an activity or project for students, she also identifies the DP competencies that are embedded in the task. Then, as students complete work, teachers assess student mastery of each competency. Students can log on at any time to see which tasks are complete, which targets have been met, and even, what the data trends are in their mastery of each target.

questions) and other outside-the-classroom learning. The calendar is unique, organized around two or more annual expeditions that each last four to eight weeks, in addition to the twice-yearly "intensives." There is also a Mud Season School in March and a Summer School in July for students who have not successfully completed coursework to work on specific learning targets.

Staff at **Medical Professions and Teacher Preparation Academy,** which has a relatively traditional schedule, are struggling to find flexibility. They have set up structures like a daily "X" block and Saturday school for students who need extra instruction to master difficult material. They also are planning a summer component. However, the principal talks openly about the difficulty of breaking away from time-based student progression.

Designing Curriculum and Instruction From Scratch

In competency education schools and programs, administrators and teachers find themselves continually retooling both their curriculum and their practice, as they not only face the issues all teachers face, but also attempt to accommodate the specific learning needs of their students and the demands of competency education. There is no single blueprint for competency education initiatives, so it is virtually impossible to find a published curriculum that fits any individual program's often customized design needs. Rather than buying textbooks or "off-the-shelf" online courses, some teachers are designing their curriculum from scratch while others are building on existing materials. The benefit of a homemade approach is that curriculum can be customized to meet the needs of each classroom, teacher, and student. The drawback is that it requires a tremendous amount of work, especially for those committed to continuously reflecting on and improving the curricular designs.

At Boston Day and Evening Academy and Diploma Plus, teachers must develop the curriculum themselves, because it grows out of the need for self pacing and meeting the wide range of academic levels from third-grade to grade 11 or 12.

At **Expeditionary Learning** and Big Picture Learning, there is a long mission-driven tradition of teacher-created curriculum, evolving out of the specific interests of the students and the resources available in the community. But even these intermediaries with years of experience recognize their inherent limitations. Most notably, not all great teachers are great curriculum designers; the jobs require different skill sets.

Despite many variations, two things characterize successful competency-based classrooms. First, teachers explicitly teach students what the learning targets mean and provide examples of mastery. Second, teachers develop extensive formative assessment practices that they use frequently—sometimes multiple times a day—to measure each student's progress.

Assessing Mastery and Monitoring Progress

There are many logistical challenges to implementing competency-based programs. The biggest appears to be the lack of tools to assess and monitor student progress, especially anything tailored to a particular initiative's needs.

Medical Professions and Teacher Preparation Academy adopted an existing mastery framework, the Cambridge International Examinations system, as part of 21 pilot schools participating in Excellence for All. Students must meet or exceed qualification scores on a series of end-of-course exams in ELA, math, science, history, and the arts.

However, at most schools in this project, staff have invested many hours defining and refining their mastery system and building assessment and data systems from scratch, just as with their curriculum. They have created learning targets, performance-based assessment rubrics, and database applications to track progress and report to students.

Meanwhile, Big Picture Learning is just starting its efforts to introduce common proficiency-based assessments at all of its sites that will validate the quality and rigor of the work BPL students do, not just in class, but in internships, community projects, and other domains.

While competency education can be managed effectively in low-tech ways, school leaders and staff are eager for database systems to support their work. When each student is mastering competencies at their own pace, and often pursuing different pathways toward that goal, data can easily become overwhelming as teachers try to track where every student stands on each learning target. Furthermore, most schools have a commitment to ensuring that the information is transparent—available to students as well as school administrators and parents.

Some of the schools use "low-tech" methods such as wall charts, stickers, and students initialing their progress on standards, while others have developed customized database software. Competency education schools are hopeful that fast-paced improvements in technology to assess, track, communicate with other systems such as district software, and even suggest activities and curriculum modules, means that high quality solutions may not be very far away.

Coming to a School Near You?

Competency education is evolving across New England and the United States. While few models have reached maturity, educators and policy makers have much to learn from the work schools have begun. The expansion of competency-based programs is also likely to benefit from a number of new favorable conditions.

Experienced educators and intermediary organizations are providing a variety of essential training and support to newcomers to the field. The Quality Performance Assessment Initiative, for example, trains practitioners in designing Common Core-aligned, valid, performance assessments. Boston Day and Evening Academy has launched the Responsive Education Alternatives Lab, the only intermediary exclusively devoted to supporting the development of competency-based models.

The establishment of friendly policies at the federal, state, and district levels is making it possible to develop coherent competency-based programs. Thirty-six states have adopted policies that allow districts or schools to "provide credits based on students' proficiency in a subject," opting out of seat-time requirements. The adoption of the Common Core State Standards by almost every state will encourage consistency in developing competencies that are grounded in high quality college-readiness standards, and the assessment systems being developed by multi-state consortia will support the need to measure the kinds of complex knowledge and skills embedded in many competencies. It is easy to foresee that technological innovation, much of it already underway, eventually will lead to curriculum, data systems, and assessments designed around competencies, rather than class time.

Competency education has a long history, but its widespread adoption is far from certain. As personalization occurs in every aspect of modern life, it will no doubt permeate education more fully, and the idea that every student should learn at the same pace may seem as old-fashioned as typewriters do today. In the meantime, we can learn a great deal from the pioneers of competency education, including the 11 schools highlighted in this report.


learned by

A Note on Terminology

This report uses the term *competency education* to refer to educational models in which students progress on the basis of mastery of skills and knowledge, rather than completion of courses with a passing grade. Other terms for such models include: *standards-based education, mastery learning, proficiency-based pathways, and competency-based education*. Competency education is also sometimes described as *performance-based*, but this term is also used for a particular type of assessment based on performing tasks that demonstrate learning, rather than traditional tests; such assessments may or may not be part of a competency education approach. It is not unusual, in an emerging field, for multiple terms to be used for similar concepts. We are using competency education in part because it is embraced in Federal Policy as part of the *Race to the Top* (RTTT) Fund.

The original terminology used in the RFP and grant awards was *proficiency-based pathway*s, which is reflected in some of the original grant materials referenced here.

Contents

One

Why a Close-Up View of Competency Education?

Effective implementation of competency education involves weaving together a set of interconnecting strands. From creating a transparent mastery and assessment system to learner support, these strands reveal the specifics of competency education in operation—and the challenges of developing and implementing competency education systems.

Research shows intelligence and motivation are malleable. Helping students understand that they can acquire new skills and improve existing skills through effort, regardless of past achievement or experiences, increases their motivation to try and to persist in challenging circumstances.

(Toshalis and Nakkula, 2012; Dweck, 2006, 2007)

Schools today face unprecedented pressure to close achievement gaps and prepare all students for college or careers. Persistent student learning disparities, the new digital age of teaching and learning, and the economic necessity of a college education, combined with the political pressures of No Child Left Behind and the advent of Common Core State Standards have left educators crying out for a fundamentally new approach to K-12 education. The traditional system of moving students ahead to the next grade level after nine months of school, regardless of what they have or have not learned, seems less relevant every year. Schools and districts are grappling with the need to reach and teach all students in ways that are fundamentally different and more differentiated than at other time in our history. In this educational environment, competency education offers an increasingly appealing alternative.

Competency education is based on the idea that education is about mastering a set of skills and knowledge, not just moving through a curriculum. In competency education, students keep working on specific skills and/or knowledge until they can demonstrate their understanding and ability to apply them; they then move on to the next material while continuing to apply what they have already learned. Students cannot move forward simply by showing up to class on a sufficient number of days, nor can they get by with Ds. Instead, they must meet standards (also known as competencies, performance objectives, or learning targets) at a pre-determined level of proficiency. Only when they master a learning target do they move ahead to the next challenge.

Competency education is a familiar approach for professional training. Firefighters, nurses, and anyone who has passed a driver's test can open a training handbook to show the list of competencies they had to demonstrate in order to receive their certification or licensure. Support for a competency-based approach to instruction has a fairly long history in K-16 education in the United States, going back at least to the vocal "objectives-based instruction" proponents of the 1930s. Competency-based training as a formalized methodology experienced a heyday in the mid-1960s, as an effort to improve teacher training programs and poor student achievement, although the focus at the time was not on monitoring the performance of students, but on how schools performed and whether adults had the skills they needed. By the late 1970s, competency education had moved toward the mainstream of student instruction, especially in vocational education, and was defined by the U.S. Department as a "performance-based process leading to demonstrated mastery of basic and life skills necessary for the individual to function proficiently in society" (U.S. Office of Education, 1978). Those familiar with today's standards movement will almost certainly recognize a strain of competency education in its logic, if not always its actual practice.

While competency education is not new, there are a number of reasons why it is attracting renewed interest and hope among educators and policymakers today. The CompetencyWorks website explains why "It is vitally important for our country to move away from the restrictions of a time-based system":

- To ensure that all students succeed in building college and career readiness, consistent with the Common Core of world class knowledge and skills
- To take advantage of the extraordinary technological advances in online learning for personalization, allowing students to learn at their own pace, any time and everywhere
- To provide greater flexibility for students who would otherwise not graduate from high school because they have to work or care for their families

Two intersecting areas of research ground and guide the current movement toward competency education: 1) increased understanding of how students learn, and 2) increased understanding of the impact that motivation and related social/emotional issues have on achievement. Research into effective teaching and learning practice has focused on the premise that, since students learn differently, instruction should be tailored to their individual needs, interests and styles. There is also increased evidence that providing students with high quality, ongoing feedback (formative assessment) enables students to adjust their learning strategies, receive more targeted support, and raise their achievement level. Finally, researchers are discovering that what students believe about their ability to learn—their sense of self-efficacy and cognitive confidence—is a powerful determinant for learning.

If competency education is emerging as a viable response to today's educational conditions and challenges, we need to know more about what it looks like in practice. The "Making Mastery Work" report shares the findings of a project designed to explore competency education in different contexts and settings, with diverse student populations, from early planning to decades into the journey.

One
The Project

In 2010, the Bill & Melinda Gates Foundation (Gates) approached the Nellie Mae Education Foundation (NMEF) about partnering to learn more about competency education models in New England.

Both Gates and NMEF have a long-standing commitment to supporting educational models and programs that have the potential to increase student motivation and engagement in order to ratchet up achievement, particularly in communities where academic success remains elusive. Both see enormous promise in competency education, while realizing there is much about it that remains unknown. Thus they launched the Proficiency-Based Pathways project to support and foster understanding of current state-of-the-art competency education practices in New England.

In March 2011, the project selected seven grantees, all of whom were:

- already engaged in the work of competency education;
- focusing their efforts at the high school level;
- proposing to use the grant money to develop a specific element of their competency education model; and
- willing to provide consistent and extensive access to the NMEF consultant team.

This project was intentionally designed as a "research and development" effort: besides supporting the implementation of projects that would advance competency education, it aimed to help Gates, NMEF, and the wider education community learn about an important emerging field. In exchange for funding to support their competency education efforts, grantees opened their schools to a team of observers who dug deeply into their work so that it could be shared.

The Grantees

Though this project involved a relatively small number of grantees, there was a considerable amount of variation among them, allowing for a deeper exploration of competency education. The grantees included schools, districts, intermediaries and networks, located in rural, suburban, and urban communities. All of the schools involved are small public high schools, enrolling fewer than 600 students; two serve high-risk, overage, under-credited students. Since two of the intermediaries focused their grants on more than one school, a total of 11 schools were involved in the project. Table 1 describes the grantees (see also Appendix 1.)

The Research

Grants were awarded in March of 2011 and grantees submitted final projects and reports in June 2012. In between, over a period of fifteen months, the grantees came together several times, both in person and online, to share their knowledge and experiences. In addition, information on each grantee and their grant was collected in a number of different ways. A trio of consultants from reDesign framed research questions and collected information over the course of the project to capture the stories of the grantees for convenings, Gallery Walks, and this report.

Group Learning Activities:

- Two convenings to inaugurate and conclude the project (May 2011 and April 2012)
- Three virtual Gallery Walks, in which participants posted exemplars of their work online, and commented on each other's products
- Three topical webinars: the first introduced this research project; the second explored student experiences of competency education; the third focused on lessons learned about developing competency education approaches

Individual Learning Activities

- An average of two site visits with each school, including interviews with school leaders, student and teacher focus groups, class observations and other activities
- An average of nine conference calls with the site liaison and other key leaders of each school or network that received a grant
- Extensive review of collateral materials

It is important to note that the research for this product was extensive, but not comprehensive. There is more to every school's story, and to the story of competency education in New England. But this report provides a meaningful snapshot of the present moment.

Table 1: Grantee Snapshot

Grantee	Schools	Context of Competency Education	Focus of Grant Project
Big Picture Learning	Big Picture Rochester, Rochester, VT; Big Picture Depot Campus, Storrs-Mansfield, CT	A high school model based on a highly personalized approach to learning. Can function as a school or pathway within a school. Known for its full-time advisory structure and careful blending of school, workplace, and community-based learning activities. Serves a wide range of students in both rural and urban settings.	Create a user-friendly competency education assessment system that reflects BPL's deep commitment to "multiple learning domains" (classroom and community-based learning experiences).
Boston Day and Evening Academy, Boston, MA	Boston Day and Evening Academy, Boston, MA	17-year alternative public charter high school serving overage Boston students, 100% eligible for free and reduced lunch, who have struggled in or dropped out of other settings. BDEA is a competency education school, well-known in the region for its work on developing a competency education assessment system.	Develop and pilot the REAL Institute, a regional institute to train and support districts and schools in competency education practices. Align curriculum and benchmarks to the Common Core Standards.
Diploma Plus	Champion High School, Brockton; Charlestown High School, Charlestown, MA; E-Cubed Academy, Providence, RI	National alternative high school/program network designed specifically for struggling students from urban settings, typically overage and undercredited. Can function as a school or pathway within a school. Longtime leader in competency education, with unique experience developing competency education-friendly technology systems.	Expanding use of blended and online learning to support competency-based approach to teaching, learning, and progression toward graduation.
Expeditionary Learning	Casco Bay High School, Portland, ME	A high school of choice for 275 Portland students, now in its seventh year, in which Learning Expeditions (in-depth projects) drive instruction. Casco Bay is a "mentor school" in the national Expeditionary Learning Network.	Create v2.0 of the Casco Bay Assessment System, with newly developed and codified practices, to be shared with both the Portland Public Schools and the Expeditionary Learning Network.
MSAD15, Gray-New Gloucester, ME	Gray-New Gloucester High School, Gray-New Gloucester, ME	The only grantee doing competency education throughout an entire school system, the district has been implementing competency education for over four years at the elementary and middle school levels. It is now being piloted at the high school level.	Vertical expansion of competency education at the middle school level (adding grade 8), creation of additional competency education curriculum and assessment materials, and planning for the Sept. 2012 introduction of competency education into the high school.
National Center on Education and the Economy	Medical Professions and Teacher Preparation Academy, Windsor, CT	Dual-themed magnet school serving a diverse group of formerly struggling grade 6-10 students drawn from Hartford and surrounding areas. MPTPA is supported by the Capital Region Education Council.	Implement the internationally benchmarked Univ. of Cambridge International Examinations aligned instructional system as the framework for a school-wide competency education approach.
Vergennes School District, Vergennes, VT	Vergennes Union High School, Vergennes, VT	A rural grade 7-12 regional school serving 600 students. The middle school is affiliated with Expeditionary Learning, using Expeditions and Exhibitions to frame student learning. The high school is building on this foundation with the creation of a competency education program.	Create a set of valid performance tasks, aligned to their Performance-Based Graduation Requirements.

One

B

The Structure of the Report

The report is organized in sections that provide both an overview of current competency education practices in New England and a glimpse of the work of individual schools.

- **Section II** explains what competency education is, identifying its most important elements and distinguishing it from traditional education practices.
- **Section III** describes the nuts and bolts of competency education as it is currently being implemented by the schools in this study, from assessment practices and curriculum and instruction to partnerships and technology needs.
- **Section IV** brings in the critical voice of students, sharing their experiences with competency education.
- **Section V** concludes with summary observations, as well as thoughts about the near future of competency education in New England.
- **The Appendices** include exemplars and tools developed by the schools in the study.

Two

What is Competency Education?

[Competency Education] enable[s] students to engage in learning experiences where they can demonstrate mastery of content and skill and earn credit toward a diploma, credential or other meaningful marker. The 'grain size' of these pathways can vary considerably from earning a high school diploma to mastering a particular subject (math) or course (Algebra 1).

ADAPTED FROM "PROJECT MASTERY: PROFICIENCY-BASED PATHWAYS"
FEB. 1, 2011, BILL & MELINDA GATES FOUNDATION

The previous definition of competency education comes alive in the practices of actual schools. Take **Boston Day and Evening Academy** (BDEA). A Horace Mann Charter School located in Roxbury, an urban neighborhood in Boston, BDEA was founded in 1995. Its mission is to provide a rigorous academic program for overage, under-credited youth. Students typically arrive at BDEA after repeated failure in the Boston Public Schools. Some are close to graduation, with the skills and knowledge of a typical eleventh or twelfth grader, while others have significant coursework to complete, often enrolling with fourth or fifth grade reading and math skills. With such disparities in preparation, BDEA rapidly discovered that a one-size-fits-all approach would never meet the needs of its students.

Over the past decade and a half, through the leadership of two principals, the school has developed a highly-evolved competency education system. It has fully abandoned traditional year-long high school courses and replaced them with modular trimester courses aligned to a system of standards-based competencies (learning targets) and benchmarks (skills needed to achieve a learning target) that all students need to master. The trimester system allows students to enter the school in September, January, and April, and graduation is held four times a year. The competency system makes it possible for every student to know "what benchmarks I have met and what benchmarks I still need to earn," as one student put it, while teachers can log into a database to track student progress.

All incoming students enroll in an Introductory Seminar trimester where their learning needs are assessed, they are introduced to the school's competency education approach, and they build relationships with staff and connect with student support services. From there, students pursue their path to graduation through a variety of instructional delivery options: classes in the day or evening, a distance learning program, and a set of online and blended classes created by teachers and hosted on the school's own Moodle server.

As one of the pioneers in competency education, BDEA has built a nimble, elegant system that meets the needs of each of its students.

In a completely different environment, **Maine School Administrative District 15** (MSAD15) is also finding success through competency education. The Southern Maine communities of Gray and New Gloucester are quiet rural neighboring towns located halfway between the larger cities of Portland and Auburn. Five years ago, MSAD15, the joint district for the two towns, began designing a competency education approach for the whole district as a transformation strategy to address learning gaps revealed by student data, including a 25% dropout rate at the high school. MSAD15 began building its competency education system at the early elementary grades, expanding it through the system as its first students advanced. The system is now well-developed across K-8, and has begun to take root at the high school, where a small but dedicated group of teachers have been "early adopters."

During its evolutionary journey, MSAD15 studied other competency education models including Colorado's Adams 15 and nearby **Casco Bay High School** in Portland, Maine. They also received technical assistance from the Re-Inventing Schools Coalition (RISC), a national intermediary that began implementing competency education (CE) programs in Alaska and is now working in states and districts across the country. Over the past five years, staff have used what they learned through study and practice to develop a robust set of student and teacher tools, including standards-based grading rubrics, units of instruction that scaffold learners at various proficiency levels, several generations of performance-based assessments, and student work exemplars. In order to track student progress, they have customized *Infinite Campus and Educate*, their school management information systems. Their next order of business is to rewrite the district's graduation policy to reflect the performance expectations of a competency education system.

The examples of BDEA, an alternative school, and MSAD15, an entire district, only begin to illustrate the diverse opportunities and learning pathways that characterize competency education in New England today. Other examples include programs within schools, school networks, and magnet schools. All of the schools discussed here tailor their competency education efforts to their settings, core philosophical principles about education, student needs, and resource bases. Some started their work so long ago that they are now looking for new opportunities and technologies to refine their original design. Others started more recently, when there were more external tools and models available to support construction. Their projects thus operate at many different levels, revealing both the possibilities of competency education and the different stages of its development. For instance:

- BDEA aligned its existing competency system with the Common Core Standards and created the Responsive Education Alternatives Lab (the REAL Institute), a learning network which gathers educators from around the country to learn about competency education and receive guidance and support in developing their own competency education programs from BDEA administrators and staff.
- At **Vergennes Union High School,** teachers developed Performance Tasks that will be embedded in coursework and included in portfolios students present for graduation.
- The **Medical Professions and Teacher Preparation Academy** (MPTPA) is implementing the University of Cambridge International Examinations instructional system as its assessment framework, beginning with the ninth grade and building year by year to a whole school model. MPTPA is part of the National Center on Education and Economy's competency-based *Excellence for All initiative*. Through this initiative, students pursue a rigorous course of study that can lead to a high school diploma as early as the end of their sophomore year, if they can pass a series of aligned assessments covering English Language Arts, mathematics, sciences, history, and the arts.

Underlying this plethora of institutions and practices are a set of elements that clearly distinguish competency education from traditional educational models based on Carnegie Units. Table 2 (page 15) lays out these distinctions.

Ultimately, regardless of their student populations, pedagogical leanings, stages of development, or grant projects, the schools involved in this project shared not only the above elements, but two key characteristics, which seem in turn to characterize effective competency education:

- **A clear definition of mastery, along with procedures and tools for tracking that mastery:** Each school has identified or is in the process of identifying a system of clear learning targets, assessments, and data approaches that enable students to advance based on demonstration of proficiency in particular skills and knowledge.
- **Flexible uses of time:** Each school in some way released students from narrow "seat time" expectations in order to organize teaching and learning around mastery, regardless of the speed at which it is achieved.

Mastery and **Time** are thus at the heart of competency education as it is described in this report. Nevertheless, one of the exciting features of competency education is that it can evolve and grow to fit local design parameters. Picture the differences in housing around the world, with different styles designed specifically to address culture-specific aesthetics, climate, and natural resources. The same is true for designers of competency education initiatives: there is no single blueprint, but there are construction guidelines.

The experiences of these schools suggest that the guidelines for competency education include:

- The creation (or adoption and adaptation) of a robust set of standards-aligned competencies (also referred to as learning targets or power standards) that articulate exactly what students need to know and be able to do
- The creation of a set of summative assessments that ultimately indicate that students have acquired the knowledge and skills they need to graduate
- The development of a coherent set of predictive formative assessments and benchmarks that provide teachers and students with reliable, real-time feedback on student progress towards final summative assessments
- The establishment of flexible pacing guides, schedules, and calendars that allow students to learn at the rate that best suits them
- The creation (or purchase and adaptation) of a curriculum organized around the competencies, with recurring opportunities for students to receive feedback on their level of mastery

Table 2: What Distinguishes Competency Education?

Competency Education	Traditional Education
Students graduate after they are able to demonstrate mastery of a comprehensive list of competencies (also broken down into learning targets or benchmarks).	Students graduate upon completion of a mandated number of hours in a required set of courses.
Courses are designed around a set of competencies or learning targets that are aligned with state standards and the National Common Core Standards.	Courses are designed to align with state standards and the National Common Core Standards.
Course "credit" is received by mastering the competencies associated with the course or a smaller module.	Course credit is received by meeting seat-time requirements.
Each competency is assessed on a rating scale (such as letter grades, or terms such as "Highly Competent," "Competent" and "Not Yet", or "Exceed", "Meets" or "Doesn't Yet Meet" the standard). Where effort or work habits are reported, they are typically maintained as a separate grade.	Course completion is assessed with a culminating grade composed of weighted averages of completed assignments (such as tests, homework, quizzes, labs), "effort" (organization, preparedness, and "attitude" are typically included in this component) and timeliness (students are typically penalized for turning in work late, arriving to class late, or missing school).
Students progress at their own pace.	Students complete coursework together.
Students are placed in courses based on the data mined from diagnostic assessments.	Students are placed in courses based on their age, grade-level and/or prior performance.
Assessments are aligned with competencies, and may be taken whenever a student is ready to demonstrate mastery.	Assessments are aligned with course calendars, and are taken when units of study are complete.

- The design (or purchase and modification) of effective, transparent tools and information systems for tracking student progress towards mastery
- The development of robust approaches to supporting students as they move through the competencies, especially those who progress slowly

Whether schools are new to competency education or experienced, all agree that competency education design and implementation has required a certain amount of trial and error to find the best systems for their students and community. Until quite recently, competency education programs have been relatively isolated; there have not been many mature programs with mentorship capacity anywhere in the country. The next section lays out some of the experiences of the grantees in each of these areas, with the goal of providing, not a definitive explication of competency education, but a variety of models and approaches to broaden the shared understanding of the competency education community.

Three

The Nuts and Bolts of Competency Education

Proficiency-based grading sounds like you could walk in as a ninth grader and do twelfth grade work and be done. We have had to struggle with what consistency looks like in the framework: how many times do students need to meet the standard, how many times do they need to show that they have mastered content? We've worked on trying to figure out what the ladder looks like to being college-ready.

KIPPY SMITH, EXPEDITIONARY LEARNING COACH AT CASCO BAY HIGH SCHOOL

Three

Creating a Transparent Mastery and Assessment System

The complex work of creating competency education mastery and assessment systems has been one of the most important ongoing tasks for all of the schools.

All except for **Medical Professions and Teacher Preparation Academy** (which uses the University of Cambridge International Examinations curriculum) have invested hundreds of hours in defining and refining their systems. This work has involved stakeholders in major decisions about what to include in their systems, how to align their systems to their beliefs, and how to navigate district and state assessment requirements. Typically their efforts have resulted in the creation of a number of different tools and products: graduation requirements, learning targets for specific grade or performance levels, performance-based assessment rubrics, methods for helping students "unpack" the language of standards, database applications that report student progress relative to learning targets, and guidebooks and manuals for faculty, students and families.

Boston Day and Evening Academy details the key features of a competency-based assessment system in Table 3.

While the schools created very different systems, they asked themselves similar questions as they undertook their design work; these questions can be organized into a sequence, although it is important to note that while the actual experiences of the schools followed a recognizable path, they did not adhere strictly to this sequence:

- What are the learning targets or competencies that best represent the skills and knowledge students are expected to master?
- What is the relationship between the program or school's learning targets, the Common Core State Standards, and other relevant standards?
- How, and how often, will student progress toward learning targets be assessed? What kinds of interim benchmarks and formative assessments will be needed?
- How will students demonstrate mastery?
- How will teachers and students track progress? What kinds of learning management systems, adapted grade-books, and student-managed

Table 3: Competency-Based Assessment

What It Is	What It Isn't
Students are placed in appropriate courses based on skill and content knowledge and gaps gleaned through diagnostics.	Students are placed in courses based on age, grade level, or grades on prior coursework.
Students must demonstrate mastery of the competencies associated with a course before moving on to the next course in the sequence.	Students demonstrate understanding of a percentage of a course's content and skills (typically 60-65%) in order to move on to the next course in the sequence.
Assessments are both formative and summative.	Assessments are primarily summative
Assessments are designed to provide students with the opportunity to demonstrate mastery of competencies.	Assessments are designed to measure student understanding of the content of specific units or texts.
Students are assessed as Highly Competent, Competent, Basic Competent or "not yet competent" on each learning target. Failure is not an option.	Students are assessed with an aggregate grade composed of the weighted average of both formative and summative assessments (such as tests, homework, quizzes, and labs). Failure on formative assessments can result in course failure, even if students demonstrate mastery on summative assessments.

tracking tools will be needed?

- How will the program grade and award credit?
- How can the system, once developed, be clearly communicated to students, families and other stakeholders?

The experiences of the schools as they have addressed these questions over the years reveal:

- Designing mastery-driven assessment systems calls for time and creativity.
- Creating a mastery system has largely been a custom design endeavor to date.
- While the design of valid summative assessments is essential to a competency education assessment system, formative assessments ultimately form the backbone of the system.
- Designing an assessment system that is fully transparent to students, faculty, and outside stakeholders creates powerful buy-in.

The schools in this project have been developing their competency education systems for varying amounts of time: 17 years for Big Picture Learning and Boston Day and Evening Academy (BDEA); 16 for Diploma Plus; seven years for Casco Bay and four for MSAD15 and Vergennes; a single year for Medical Professions and Teacher Preparation Academy (MPTPA). But whether they've been at it for well over a decade or are just getting started, all continue to adjust their school designs to meet the needs of their students and reflect emerging best practices in teaching and competency education. The time and creativity this has taken has been more than any of them initially envisioned, but the results have been well worth it.

All of the schools began their journey to a competency education approach by articulating what mastery would mean within the context of their program(s). This is a complicated nut to crack. It

requires that they determine both **what students need to master** (content and skills) and **what mastery looks like** (the evaluation and grading system that determines whether a student's work meets that definition of mastery).

For some schools, this particular part of the work has been fairly simple. At MPTPA, for instance, mastery means meeting or exceeding qualification scores on the University of Cambridge International Examinations. The National Center on Education and the Economy (NCEE) and the states that are participating in *Excellence for All* are establishing these qualifying scores, aligning them with research-based college readiness standards. Once students have achieved qualifying exam scores, they can move on to a range of possible pathways, including a rigorous upper division program designed to prepare them for competitive colleges and universities, a career and technical education pathway leading to a professional credential, or early high school graduation and enrollment in an open enrollment institution such as a community college without needing remediation.

Meanwhile, the bar for mastery at **Vergennes Union High School** is proficient performance on a set of performance tasks for each of a number of portfolio categories (see Appendix 4 for the list of portfolio categories and examples of two performance tasks). Over half the teachers at the high school have been involved in writing performance tasks, resulting in strong momentum for implementation throughout the school. In addition, the entire faculty of the high school has met repeatedly to conduct score "calibration," or "tuning," ensuring that there is consistency in scoring across classrooms. This work was guided by technical assistance from leaders of the Quality Performance Assessment project at the Center for Collaborative Education. During the day long in-service, the faculty considered key questions, such as:

1. What will our Proficiency-Based Graduation Requirement (PBGR) toolkit and glossary look like, and how do we create it?
2. How can we create time for PBGR professional learning communities where we regularly look at student work?
3. How do we help students create their own path and build student-centered learning into our assessment system?
4. What is the best way to be transparent and inclusive with our school board and our community?
5. What are our next steps in creating and implementing a system for performance-based graduation requirements?

The Expeditionary Learning/Casco Bay project had a somewhat wider scope. **Casco Bay** has been affiliated with **Expeditionary Learning** (EL) since its founding seven years ago. Expeditionary Learning is a national network of 165 schools based on a model that emphasizes active, inquiry-based interdisciplinary learning and has strong evidence of effectiveness.

For this project, Casco Bay formed a collaborative partnership with EL to design version 2.0 of its assessment system and, in the process, create an exemplar to be shared across the EL School Network. Casco Bay also wanted to further develop the daily "building blocks" of a competency education grading system (strong assessment planning and use of good assessment practices in daily lessons) while tackling some of the perennial challenges of their approach (student work habits and ownership of their learning, deadlines, etc.).

Over the course of the year, Casco Bay developed the following components of their system, revising some and creating others from whole cloth (see Appendix 6 for sample tools):

- New performance-based graduation outcomes, called Pathways to Success
- A document describing how graduation requirements will be assessed

- A set of 13 universal rubrics to assess student progress towards the learning targets included in the graduation requirements
- A *Faculty* Grading Guide
- A *Family* Grading Guide
- Model interim assessments
- A "Be Accountable" policy for students—and a second version for faculty—outlining the parameters to which students must adhere in order to gain the right to demonstrate mastery at their own pace
- An Assessment Teaching Planning Guide to help plan curriculum and assessments for specific learning targets
- A tracking tool to support students in monitoring their own progress towards mastery of learning targets
- The standards-based grading chapter of EL's Student-Engaged Assessment Teacher Toolkit
- EL's guiding checklist for the creation of Quality Assessment Plans
- A competency-based retrofit of the state's required learning management system, Infinite Campus

To support faculty in implementing the improved system, the school identified teacher leaders who would take on the newly created role of Assessment Coaches (see Appendix 6 for a description of their role). Coaches were involved in four implementation activities:

- Creating an Assessment Toolkit to assist teachers with planning and assessment
- Facilitating critical friends Instructional Triads (consisting of three teachers and one coach) focused on deepening classroom assessment practices
- Developing the school's professional development plan for the year, including the Instructional Triads
- Participating on the Assessment Team where they reflected on the effectiveness of staff efforts to develop formative assessment in order to design next steps

Casco Bay's holistic approach to their assessment system is a valuable reminder of the power of taking even the first steps toward a mastery system. Staff recognized immediately that establishing explicit learning targets, which broke down larger course standards into their constituent parts, helped them develop more precise and intentional assessment plans, as well as more focused curriculum and instructional activities. In the process, they discovered that there is a difference between aligning or correlating with standards and actually using those standards to assess student performance. Their standards-based grading system has helped many of their stakeholders to understand competency education and appreciate why they find it a better approach to learning.

Designing mastery-driven assessment systems calls for time and creativity.

As noted above, the Medical Professions and Teachers Prep School (MPTPA) is taking a different route to competency education. MPTPA is a second year magnet high school, drawing students from urban and suburban Hartford, that has adopted the University of Cambridge International Examinations (Cambridge) as the driver for its competency-based approach. By using the Cambridge exams as their summative assessment, MPTPA has been able to

leapfrog over a significant portion of the design and development work that other sites undertook—and receive the benefit of a fully-aligned instructional system, including syllabi, curricular material, professional development and a host of teacher supports. Still, MPTPA staff has recognized that adopting an existing framework is not a totally turnkey proposition: with the summative stakes so high, teachers found themselves designing stronger formative assessments and summative predictors, as well as pacing guides to alleviate anxiety that students might fall too far behind and start doubting their ability to pass the exams.

Whether schools are engaged in a long-term comprehensive effort of their own, like Casco Bay, or grappling with the beginning stages of adapting an established system to their own needs, like MPTPA, the design of mastery and assessment systems requires ongoing investments of time and creativity from all stakeholders.

MPTPA aside, for most of the schools and networks, identifying a system of learning targets and performance tracking has involved a great deal of custom design work. Influences on this work include philosophical beliefs about what high school graduates should know and be able to do, district and state requirements, and the desire to consider carefully how a mastery-driven system can work for students with special learning needs.

Big Picture Learning (BPL) has been a leader in the alternative education movement since 1995. Over the past seventeen years, the organization has developed a unique approach to schooling, grounded in the belief that education is most effective when learning experiences are entirely customized to the passions, interests and needs of each individual student. It is a challenging task to create a deep, valid, and elegant assessment system within this context: by definition, assessment systems are designed to evaluate student mastery of a clearly-articulated common set of content and skills. But this was the goal BPL set for its project: to create a powerful competency education system that would assess student learning across the rich array of school and community-based educational experiences BPL students undertake, including internships, projects, self-development through mentoring, and academic coursework.

As School Coach Greg Young, a former Big Picture student advisor, explained:

Aligning to standards is something BP schools do really well. Getting clarity about multiple measures and giving advisors [and teachers] tools they can use to consistently assess student progress across learning activities is the trick. If you look at accountability at traditional schools, it's based on test scores. We're saying, 'No. Here are these other pieces, other learning experiences—and they're not soft.' An internship is not just a nice-to-have. We want to increase the consistency of how we assess rigor, with common definitions about what makes an internship or project or class at the school or in the community a rigorous experience.

Another Big Picture staff member focused on the integrative scope of the effort, which specifically sought to bridge classroom and experiential learning:

I see our work on assessment as seeking a more holistic process that looks across multiple competencies as they are exhibited in real world settings and contexts. Most traditional assessment systems work on each competency in relative isolation in an artificial classroom setting. The research on learning transfer indicates that transfer to the real world often does not take place.

BPL has worked on assessment before, but their past efforts were unsatisfying, resulting in the adoption of "clunky technology systems that asked teachers to 'click' 1000 standards, through a robotic checklist approach." Young described their goal:

We want to significantly increase the consistency of rigor, with common definitions about what makes something a rigorous experience. But we also need the system to be light administratively. We've used some digital portfolio tools and found that students and teachers weren't spending time on what was meaningful. You're not spending your time really looking at student work and providing real learning support to the student.

As BPL began to reboot their system, they were guided by the instinct that "less is more" and simple is user-friendly. Knowing that if they began from ground zero, they would likely exhaust an "entire year just deciding on the language of competencies," they adopted a rapid prototype process to develop and test a set of competencies and related student tools. Because BPL values social-emotional learning, workplace and college readiness, and academic mastery, their system had to be built around all three domains of their program.

Long-time staff members with broad expertise in BPL's educational framework facilitated the design of the assessment system. They began with a review of research literature on "competencies": skills, including non-cognitive/non-academic skills, associated with school and future success. After creating a Competency Wheel tool, they turned their attention to two key moments that leverage deep conversations about learning: the development of student learning plans and quarterly student exhibitions. While BPL programs vary to some degree, most use a full-time advisory structure that serves as a student's "home and second family" throughout the day: one advisor works with a group of 15 students for their entire BPL career, helping each student design and navigate their individualized path to graduation. As students line up school and community learning experiences that will engage them and help them reach their goals, advisory and the advisor facilitate mission-critical assessment experiences that make their learning explicit.

Over the course of the competency education project, BPL used the Big Picture program in Rochester, Vermont as a prototype lab to develop and test new versions of their BPL student learning plan tool. Staff also started to design, test, and fine-tune a set of rubrics, aligned to the new Competency Wheel, which advisors and students can use to assess student project work (see Appendix 8 for BPL's Competency Wheel, Student Learning Plan, and sample assessment rubric). Here, BPL encountered a familiar challenge for mastery-based programs: developing valid assessment instruments can be technically challenging and often requires external expertise. Competency education programs are highly focused on performance and competence, rather than knowledge that can be crammed for a test and readily forgotten. Codifying the specific behaviors, evidence, and developmental trajectory a student should demonstrate on the path to competence, in a system where you advance only after demonstrating competence, raises the stakes and requires a degree of precision not typically felt in a more traditional setting. BPL worked with researchers at the University of Massachusetts Donahue Institute to address these issues.

Creating a mastery system has largely been a custom design endeavor.

BPL also sought to support advisors in their critical "mediating" role. For students, advisors are the vital connection between proficiency targets, student learning opportunities, and assessment data (which is collected by people like mentors and other students and funneled back to Advisors).

Because advisors are BPL's front-line evaluators of student learning, they will pilot the new assessment tools, providing the network with tuning data so they can achieve reliability and consistency across staff and sites.

As the movement for competency education looks to the future, there is a hope that the Common Core Standards and its aligned assessments may provide a more user-friendly, accelerated platform for developing the next generation of schools and programs, perhaps providing an assessment framework akin to the University of Cambridge International Examinations at MTPTA. However, full implementation of the Common Core ELA and Math Standards is still two years away, assessments are still in the design phase, and Science and Social Studies Standards have not yet been announced, let alone released. Meanwhile, some competency education programs, like BDEA, are beginning to share their systems, while networks like Expeditionary Learning are creating prototypes for replication. Nevertheless, for the time being, at least some degree of custom design is likely to remain the rule, rather than the exception.

Many of MPTPA's teachers and students feel that the Cambridge program has been extremely helpful in establishing clear mastery targets. Adopting Cambridge has also pushed the administration and faculty to refine their understanding of the interplay between formative and summative assessments. If MPTPA had simply implemented the rigorous instructional system and end-of-course exams, as most Cambridge high schools do, their program would not be fully competency-based. Establishing bright-line standards or benchmarks, while absolutely essential, is not sufficient to create a competency education system. It is the competencies together with their attendant formative and summative assessments that ultimately create the framework for the system.

MPTPA has been intentional about their work in this arena, devoting their project grant to creating a set of formative assessments that will allow teachers and students to see exactly where students are on the road to mastery of their required Cambridge subjects (see Appendix 9). With professional development support from teachers trained by Cambridge University, MPTPA staff developed and piloted the assessments. The data revealed that some students were not on track to pass all of their required exams by the end of tenth grade. This information acted as a further catalyst, pushing the school to take on the next phase of competency-driven work: decoupling the test form the arbitrary time frame of tenth grade and creating opportunities for students to move towards mastery of their core subjects at their own pace. According to Lyonel Tracey, NCEE Engagement Manager:

We have to educate people that what is important is reaching the standard…not how fast or that everyone has to do it at the same time. It doesn't matter if it takes an MPTPA student until the eleventh or even twelfth grade to pass the Cambridge Board Examination (intended as a tenth grade exam) because it represents a standard that far exceeds what the typical Connecticut graduate is held to and can do. This is what it means to treat time as the variable and mastery as the constant.

While the design of valid summative assessments is essential to a competency education assessment system, formative assessments ultimately form the backbone of the system.

This attention to the process of mastery, technically embodied in formative assessment, enables competency education systems to support all students in their learning.

One of the most consistent themes articulated by administrators, teachers, and students alike is the belief that the power of competency education assessment systems lies in their transparent nature. As one BDEA student explained, "When I'm in a class, I know exactly which benchmarks I have to hit in order to get credit, and I know exactly what I have to do in order to show that I've hit them. If I miss a week of school, when I return I'm exactly where I was when I left. I still know exactly what I need to do."

Diploma Plus is a 15-year veteran of competency education, which is its very reason for being. Over the years, the organization has developed a mature competency-based assessment system that includes a well-defined set of academic and personal success competencies, detailed rubrics for each competency, and a customized web-based learning management system that tracks student progress towards mastery. This information is fully transparent, available any time to students, staff, and parents.

But the powerful effects of transparency can also be produced without massive infrastructure investments. Josh Katz, an English teacher at Charlestown High and a self-professed recent convert to competency education, attended a mini-series of competency education workshops led by staff from his school's Diploma Plus program. He thought he would give it a try. A visit to his classroom, five weeks into his experiment, found him surrounded by students vociferously making the case that their work met the proficiency expectations for a current learning target. On the board was an over-sized, hand-drawn chart with half a dozen learning targets along the top and student names running down the side; students had initialed every learning target they had mastered. After little more than a month, Josh felt his new mastery-based approach had created an important shift in the dynamics and learning focus of the class. Suddenly, students owned their learning process and had become capable advocates for their accomplishments. By rendering the standards visible, Josh transferred an enormous amount of power and control to his students who were clearly ready for the responsibility.

The mastery and assessment systems on which competency education relies can range from the comprehensive multi-pronged sets of tools and materials developed by BPL and Casco Bay to Josh Katz's posters. Whatever their form, these systems are crucial not only because they outline what students and teachers need to do to make competency education succeed, but because they make those expectations transparent and visible to all stakeholders. The results of such an approach are visible in the transformation Josh saw in his students, as they were empowered to take charge of their own learning, a transformation that illustrates what competency education can accomplish.

Designing an assessment system that is fully transparent to students, faculty, and outside stakeholders creates powerful buy-in.

Three

B Using Time Flexibly

At the heart of the American high school system is the Carnegie Unit, designed in the early twentieth century to standardize the minimum amount of preparation a high school student needed for college.

A Carnegie unit is equal to 120 hours of class time, which is usually the equivalent of a year-long course. Competency education, by definition, challenges the primacy of the Carnegie Unit by allowing a student who masters the key concepts of Algebra in 60 hours to receive the same credit as a student who learns it in 150 hours. In a Carnegie system, the first student would still need to log all 120 hours in the course to receive credit, while the second would receive a failing grade at the end of the year and then be required to repeat the entire course, even though they only needed 30 more hours.

As they have moved toward competency education approaches, all of the schools have wrestled with the relationship between time and learning. They firmly believe competency education's oft-repeated mantra that "time is variable and learning is constant," but none feel there is a single prescription for how time should be used or how much competency education should emphasize highly individualized and independent advancement toward mastery. These design choices are shaped by important factors, including learning philosophies, student needs, policy contexts and resource realities. Still, it is clear that:

- Schools and districts that have embraced competency education are making strategic, philosophically-grounded choices about how to organize the school year and day.
- Most competency-based schools work within familiar time constructs (terms and bell schedules), whether by choice or due to institutional constraints and challenges.

If developing the mastery and assessment systems that drive competency education is technically demanding, dealing with time is one of the most dynamic and intriguing aspects of a competency approach.

As schools and programs deepen their commitment to competency education, their attention inevitably turns to exploring how best to organize the school day and year. If their goal is all students achieving mastery, not all students passing a course by the end of a term or year, then using the same pacing guide for everyone becomes a problem.

As schools and programs deepen their commitment to competency education, their attention inevitably turns to exploring how best to organize the school day and year. If their goal is all students achieving mastery, not all students passing a course by the end of a term or year, then using the same pacing guide for everyone becomes a problem. But though every school has faced the same dilemma, their philosophical beliefs about teaching and learning have shaped their decisions about how to use time to foster learning.

Schools and districts that have embraced competency education are making strategic, philosophically-grounded choices about how to organize the school year and day.

At **Big Picture Learning**, learning is a personal and community-based experience. BPL's mission is "the education of a nation, one student at a time," a philosophy that is clearly evident in their approach to school. The program evolved from the notion that students learn best when they are learning about things that interest them and what interests them is best explored wherever and whenever it occurs. This philosophy has driven BPL to design a unique structure for its school day and calendar.

BPL uses key experiences, like quarterly student exhibitions that demonstrate mastery of articulated learning targets, to structure and manage learning time on a large scale—there's nothing like the deadline of a public presentation, in front of community members, school staff, fellow students, and others, to keep students focused on getting things done. Advisors work with students to design fully-personalized programs of study and facilitate day-to-day learning within the program of study. That learning includes out-of-school internships, independent studies, support from out-of-school mentors, projects, "real-life training in real-world work," and the quarterly exhibitions. Aggregated together, these experiences shape a student's schedule and learning time in the day to day. To give just one example: all BPL students must learn algebra, but the method can be personalized. A student can learn algebra skills in a regular class, as part of her internship at a financial institution, in an online or community college course, through a game-based computer program or by working with her advisor to craft some other set of activities that allow her to reach competency. These choices determine the learning timeframe.

Students in the BPL program in Rochester, Vermont have a special room for their advisory, where each student has personalized his or her own workspace. An eclectic array of personal items, like slippers, guitars, pictures, toys, and kooky knickknacks, peak out from behind binders and books. On the wall, a weekly schedule shows where students will be on different days and times. When the school bell rings, students who have a regular high school class to attend head off to their classrooms; others stay where they are to work on BPL learning tasks; still others prepare to leave campus for internships or classes at the nearby community college. While there is a general pattern to their learning lives, students in the advisory rarely have the same schedule. However, they do not always work alone. While advisory supports "one student at a time learning," it is also the place where students unite to work on skills development and required BPL learning activities like journaling, project planning, or autobiographies. The result is a highly social learning scene. For designers of competency education systems who are willing to push the boundaries of time and schedule, BPL's flexible approach, including the advisory system, is instructive.

Like Big Picture Learning, **Casco Bay High School** believes in the power of community-based learning and the importance of embedding high school education in authentic real-world experiences. Expeditionary Learning (EL), the network to which Casco Bay belongs, is organized around the mission of helping students "learn to be contributing, positive community activists," as EL School Leader Lisa Wing puts it. The network's focus on service along with student agency and empowerment drives Casco Bay's calendar, which is organized around a series of Expeditions or "long-term, in-depth studies of a single topic that explore vital guiding questions" (see Appendix 7). For example, eleventh graders complete an extensive research project and exhibition on a significant environmental issue such as oil as a nonrenewable resource. While BPL's educational paradigm places the individual at its center, Casco Bay is organized around a bedrock belief in the power of collective learning: individual students take responsibility for various elements of an Expedition, but the ultimate thrill of learning comes from integrating those elements into a coherent whole. This belief shapes the school's approach to how and when "time is variable."

To facilitate student access to the power of collective learning, Casco Bay organizes its students into grade-level cohorts, and its school day has recognizable bell schedule with block periods. The block periods make it possible for students to undertake the deep thinking work required by Expeditions while also providing flexibility to accommodate student learning outside the classroom, such as fieldwork. However, the school calendar departs from the standard semester- or year-long courses that characterize schools which use the Carnegie Unit. At each grade level, interdisciplinary teacher teams map out the year's scope of coursework, organizing much of the learning around two or more in-depth Expeditions lasting between four and eight weeks. At two points during the school year, Casco Bay offers "Intensives" in which students study one topic for a number of days. Intensive topics range from Bridge-Building Engineering to Winter Sports. A smaller portion of students also use this time to continue working toward mastery of learning targets they have not yet achieved.

This schedule also affords opportunities for students who need more time to master material, whether they have specific learning needs or not. Intensives can be used for Independent Study of material from regular coursework or for tutoring. Casco Bay has also created a Mud Season School in March and a Summer School in July. Students who have been unable to successfully complete coursework can enroll in either of these programs. Unlike traditional credit recovery programs, students do not repeat courses offered during the school year in Mud or Summer School. Instead, teachers offer opportunities for students to work on specific learning targets that the coursework covered.

Each of these modifications to the traditional school calendar arose out of Casco Bay's joint commitment to providing students with the time they need to reach proficiency and maintaining its emphasis on the development of a learning community. As School Founder and Principal, Derek Pierce reflected, "I didn't realize I had this particular value until we started this project, but I have realized that I value the power of a group doing something together much more than I value the individual pursuing their personal learning goals." Mark Conrad of Expeditionary Learning similarly commented:

Individualized (or anytime/anywhere) learning is in its infancy in EL schools. We are intrigued by it, but we are also protective of the power that comes from the social process of learning. We have found that when students work around a common project or idea, we are able to expect a much higher level of quality. Multiple projects means spreading the teacher thin: she can't invest as much in each design. Instead, we create choices for students throughout the project.

Casco Bay has decided that its next step is to explore blended and online learning opportunities as a way to increase the school's capacity to respond to individual student learning needs and interests. As a small high school, Casco Bay has begun to feel this pressure acutely: the number of courses individual teachers can offer is inherently limited, and students have asked that the school find ways for them to access a broader range of learning options, including more AP courses, courses at the neighboring high school, and courses offered at post-secondary institutions.

changing the structures of schools. We have spent incredible amounts of time creating units of instruction and assessments, but in reality, this is the easy work, this is what feels comfortable. The difficulty will be when we push on structures like calendars and schedules."

Diploma Plus (DP) entered this project ready to investigate how online and blended learning could help them "break free" from the limits of the traditional school day structure. Many districts require their DP schools to adhere to time-bound technol-

Most competency-based schools typically work within familiar time constructs (terms and bell schedules), either by choice or due to institutional constraints and challenges.

Whether they have a long-established learning framework, like BPL, or are continuing to evolve their educational offerings, like Casco Bay, time is inherently linked to learning in competency education, and flexibility is an invaluable element of program implementation.

Despite the value they place on flexibility, however, with the exception of Big Picture Learning, all the schools have organized the school day in ways that look familiar to anyone who spends time in traditional high schools: courses run for trimesters, semesters, or the entire school year; school days have block schedules or the standard seven or eight periods. Most students, teachers and administrators accept this general structure, explaining that they have found ways to adapt it to suit their specific goals and needs, including students who want to accelerate. At the same time, schools wish that district, state, and federal regulatory environments allowed them the flexibility to break free from the constraints of the Carnegie Unit. As Karen Caprio, an **MSAD15** administrator, noted, "The biggest hurdle for public education will be

ogy systems and policies, so after being placed in courses according to proficiency levels and needs, DP students follow a fairly standard schedule of classes and semesters centered around face-to-face, teacher-facilitated instructional experiences. But DP has also spent years developing solid systems to support competency education, including 24/7 access to curriculum and competency-based performance tracking. For students who struggle with attendance and often arrive at their DP program with third grade skill levels, DP wants to provide all the learning time they can. DP believes that online curriculum is one solution to this challenge and work in this area could help promote competency education-friendly district policies related to credit and time. But implementing their project has helped DP understand that, while online curriculum arguably creates conditions for self-pacing and a flexible approach to time, it is not sufficient. Curriculum design, based on a nuanced blend of online and direct instruction, and student support are also critical parts of the puzzle.

Not surprisingly, **MPTPA** staff, who are adapting a traditional and very rigorous time-based curriculum, have struggled to make time a variable. MPTPA has set up structures like X block and Saturday school where students receive individual attention to help them master material that has been difficult for them. They also have plans for a summer component. However, these are still fairly traditional strategies and the principal talks openly about the difficulty of breaking away from time-based student progression, particularly in a small school with limited staff. Still, MPTPA remains committed to marrying high-stakes learning targets and flexible timing.

Boston Day and Evening Academy has designed a set of ingenious, mission-aligned structures to support their students. Beneath the surface of a seemingly conventional school schedule and calendar, there is striking flexibility. Trimesters and summer school allow students to enroll at three points and graduate at four points during the year (new students do not enroll in summer school, but students can finish and graduate at the end of the summer). Students enroll in courses that are offered between 9 am and 5:45 pm in a six-period day. Teachers in the Day Program teach during the first four periods the day; Evening Program teachers offer courses the last four (all teachers teach during third and fourth periods, providing the opportunity for students in each program to take courses in the other, as needed or desired). Trimester-long courses are thematic and cover a sequenced set of competencies and benchmarks. In one trimester the six-person Day and Evening Science Department offers a broad range of courses: Bio-Chemistry, Physics I & II, The Cell, Ecology, Genetics, Evolution, Advanced Biology, and Advanced Science. Students can select amongst a similarly diverse set of courses in Math and Humanities.

Perhaps more importantly, students have flexibility both within and beyond these offerings. If a student is placed in a course and quickly discovers that she knows some of the material, she can be assessed on that material and move forward independently on the material she does not know. If a student needs more time to complete a course, he can take it again, beginning the work where he left off, or he can request to work independently on missing learning targets. The Math Department has supported this flexibility by creating engaging modules using their competencies. The curriculum can be accessed "anytime and anywhere," but students can also enroll in the Math POLL Lab (Personalized Online Learning) where they can do their own work while receiving support from a math teacher. Science and Humanities students pursue their independent work in regular classrooms, where they can get support from teachers who are also leading regular courses.

Until this past year, the school's goal was to create as few barriers as possible for students as they journeyed towards graduation. If they missed a month of school due to a personal crisis, they could return and jump back in wherever they left off. However, over time it became clear to teachers and administrators that the lack of a minimal pacing standard was compromising both the academic program and the school culture: the drop-in/drop-out nature of the program meant that students were unable to focus on developing consistent learning habits, while teachers struggled to organize learning in a coherent fashion. Revising the attendance policy has allowed BDEA to ramp up the intensity of its program, while also addressing the specific needs of the 30% of students whose attendance issues are affecting their ability to succeed in the Day and Evening programs. The school can now begin to re-craft its small distance learning program and online course efforts to serve these students more effectively.

Though flexibility is a valuable support for competency education, the experiences of these schools show that a competency-based approach can still be effective within a traditional school day and year, which in fact can allow some creativity in scheduling to meet student learning needs.

Most classrooms are "curriculum centered." They are designed around curricula whose core elements—textbooks and other print materials—are standardized or one-size-fits all as the saying goes. Of course, students are anything but uniform. As a result, teachers face inherent hurdles in meeting the individual needs of all their students, and students struggle to learn from curricula that are often inaccessible to varying degrees.

DAVID H. ROSE AND JENNA W. GRAVEL, CURRICULAR OPPORTUNITIES IN THE DIGITAL AGE

Three Curriculum and Instruction

In all classrooms, curriculum and instructional practices are deeply intertwined, as teachers look for the best ways to support students in tackling new and challenging academic tasks.

In competency education schools and programs, administrators and teachers find themselves continually retooling both their curriculum and their practice, as they not only face the issues all teachers face, but also attempt to accommodate the specific learning needs of their students and the demands of competency education.

For example, **MPTPA's** adoption of the University of Cambridge International Examinations allowed them to use the Cambridge curriculum, as well as a resource-rich website with activities and projects developed at other Cambridge schools. Teachers were thoroughly trained in the curriculum and began the year anticipating great success. The Cambridge curriculum emphasizes depth over breadth, which they believed would serve their student body well. MPTPA students are 81 percent minority and 50 percent low-income; they enroll in the school with gaps in both skills and knowledge that are not usually found in typical U.S. Cambridge high schools. But as Principal Andrew Skarzynski explained, "At the midpoint of the year [the administration] realized there was a distinct need to readjust instruction and evaluate pacing as there were misconceptions about curriculum learning targets. In some subjects, the teachers anticipated they would be able to, simply put, 'get further.'…We quickly realized that intervention strategies needed to be developed for struggling students." The result was the formative assessment strategies and schedule changes described in previous sections.

Explorations of site curricula and classroom observations suggest that:

- It is a challenge to find published curricula that fit the specific needs of competency education.
- The Common Core Standards are pressing many competency-based education schools to revisit their competencies and revise their curricula and assessments.
- Despite considerable pedagogical variation overall, teachers and students in schools that use competency-based approaches explicitly engage in activities designed to clarify and demystify both the learning targets themselves and student progress towards their mastery.

- The alternative education programs involved in this project have adopted instructional approaches that allow them to institute programs that embrace self-pacing.

All of the schools—those new to competency education and those who have been in the sector for a decade or more—are deep in the work of developing, organizing, and refining their curricula and codifying a set of instructional practices that align their mission and the needs of their students to a competency education approach. At BDEA and Diploma Plus, early adopters with many years of experience, this work is a result of their increasing commitment to a higher degree of self-pacing supported by blended and online learning. At **MSAD15** and **Vergennes,** it is driven by a commitment to using interdisciplinary performances as evidence of student mastery. BDEA and MSAD15 are rethinking their curriculum and instruction as a result of the new Common Core Standards. BPL and Casco Bay have come to understand that students need access to a broader range of learning opportunities, whether self-paced (online courses, independent studies) or individually-pursued (courses at nearby high schools, post-secondary institutions, or career and technical programs).

Few teachers in the schools discussed here use proprietary curriculum such as textbooks and off-the-shelf online courses. Their reasons are varied, but collectively they highlight the fact that the curriculum publishing industry has yet to wade successfully into the waters of competency education, though this appears to be changing.

MSAD15 teachers talk about being stretched to develop and adapt curriculum and formative assessments, working on weekends and evenings to stay ahead. Yet asked whether they had considered purchasing pre-packaged curriculum and assessments, one middle school teacher said, "even though I am exhausted I have never once considered that because it would not be as good." Director of Curriculum and Staff Development Karen Caprio is open to exploring a hybrid approach, but it is clear that, at the very least, schools implementing competency education face a balancing act.

At **Diploma Plus** in Charlestown and Brockton and at BDEA, teachers became curriculum designers out of necessity because they were unable to find published curricula that met the needs of the full range of students they serve. A typical BDEA or DP classroom has students whose skills range in level from third grade level to eleventh or twelfth. While a few vendors are developing products that may be robust enough for widely heterogeneous programs and include the strong performance-based assessment and blended online methods competency education schools want today, for now those schools must choose between curricula for standard high school programs, products designed to provide remedial interventions, or products created for independent, computer-based use, none of which satisfy their needs.

It is a challenge to find published curriculum that fits the specific needs of competency education.

There is a long, mission-driven tradition of teacher-created curriculum at schools associated with Big Picture Learning, Diploma Plus, and Expeditionary Learning. At EL schools, community-based Expeditions drive learning, evolving out of the specific interests, contexts, and resources of the school community. At BPL schools, curriculum is designed on a student-by-student basis, based on individual needs and interests. Clearly, neither approach lends itself to a single mass-produced

curriculum. At the same time, all three intermediaries recognize that the "every-teacher-as-a-designer" model has inherent limitations:

- Not all great teachers are great designers. Curriculum design requires a particular skill set that overlaps with instructional skills, but is not the same. Online curriculum delivery requires additional skills.
- Even if teachers do have the capacity to design great curriculum, other demands on their time make it challenging.
- Shortages of highly qualified math and science teachers result in courses designed and taught by practitioners who may not possess deep content knowledge.
- In small schools, teachers are often asked to teach outside their specific areas of expertise, making curriculum development challenging.
- For newer teachers, developing curriculum is especially laborious, and frequently ineffective.

In order to address these limitations, each of these intermediaries, along with NCEE, has begun to develop a body of curriculum aligned to their mission, educational philosophy, and pedagogical approach.

Big Picture Learning has just launched a three-year project to develop a set of prototypes for "critical reasoning and problem solving" and "communicating two of its five learning goals." The prototypes will be designed and field-tested in BPL schools. They will include student performance assessments, support materials for teachers and students, and an orientation, training and support system for advisors.

Expeditionary Learning is developing elementary and secondary level Common Core curriculum modules with two partners, New York State and Student Achievement Partners[1]. These model curricula combine rigorous academic content and higher order thinking skills with EL's instructional practices and are being developed by practitioner teams consisting of EL Coaches and teachers and leaders from EL schools. They will be made available for use and adaptation by teachers in EL schools and audiences beyond the EL network.

EL is also creating resources to help teachers with the "how" of teaching the standards. They have been working with their high-performing Mentor Schools, including Casco Bay, to create a series of Teacher Toolkits that address the key instructional shifts required to implement the Common Core Standards. The first Toolkit focuses on student-engaged assessment, providing a set of hallmark EL practices to help schools build personalized CE competency-based learning environments. Future Toolkits will focus on EL's powerful curricular and instructional practices, and on building strong school cultures.

Finally, over the past year EL launched two resources for curriculum and instruction. EL Commons, an online portal, provides educators in the EL School Network with both the tools and templates needed to design good curriculum and a robust document library that contains a complete set of learning targets aligned with the Common Core Standards and an array of Learning Expeditions that can be adapted to suit a school's specific needs and interests. The Center for Student Work is an open access archive of exemplary student work products, along with descriptions of the projects that generated the work, and the content and skills the projects teach, all aligned to the Common Core Standards.

As part of its *Excellence for All* initiative, the **National Center on Education and the Economy** has certified four providers of aligned instructional systems: International Baccalaureate, ACT QualityCore, the College Board, and the University of Cambridge

1 EL was recently awarded a contract in New York to develop English Language Arts Common Core curriculum modules for use statewide in grades 3–5, and also to deliver statewide professional development supporting the implementation of this curriculum to representatives from every district in the state.

International Examinations. Schools participating in the initiative are free to choose Cambridge or ACT for their lower division programs (typically freshman and sophomore years) and any of the four providers for their upper divisions (typically junior and senior years or whenever a student meets the qualification scores on their lower division end-of-course exams). These providers have created extensive supports, including full curricula, course syllabi, aligned assessments, teacher resources, and professional development. NCEE Engagement Managers provide additional support for teachers and administrators on an ongoing basis.

Diploma Plus has used a different strategy to tackle its curriculum challenges. Several years ago, DP invested in the development of a competency-based learning management system known as *DP.net. DP.net* was designed to provide teachers with a way to create curriculum for a fully self-paced, blended-learning environment (the following section describes this system in more detail). Some teachers and sites have fully embraced this approach, while others have been more cautious, adopting a smaller sub-set of competency-based practices.

Diploma Plus has had extensive conversations about where curriculum should be designed, and until this year the belief was that teachers remain best positioned for this work. However, as the field of blended learning advanced, DP leaders began to explore the possibility of purchasing curriculum and retrofitting it to align with DP's competency-based approach. Over the course of this project, DP worked with curriculum designer Education Connection to import six online units into DP.net and pilot them at their Charlestown and Brockton sites (view the units). However, the process was more complicated than they expected. As they began to use the courses, teachers realized that they were constructed as the online equivalent of a student textbook, were very text heavy, and required independent learning skills many DP students lacked. Overall, they did not fit the blended learning scenario that best suits DP students, which entails a mix of online and classroom-based experiences. As a last straw, some units had no accompanying teacher version. DP teachers—some of whom were new to blended learning, others of whom were new to the Common Core Standards, and all of whom were working with students who needed significant scaffolding in order to access the curriculum—felt frustrated by the lack of teaching resources they felt they needed to successfully implement the curriculum. As Diploma Plus New England Coach Michelle Allman put it:

The distinction between curriculum and instruction became much clearer throughout this work as the need for the instructional side of learning wasn't well met by the materials we provided…so, while this project has allowed us to bring very high-quality, interesting, and aligned online curriculum to our schools, it has also raised for Diploma Plus the challenge of addressing the instructional demands of competency-based online instruction.

While MSAD15 is not an intermediary, the district has adopted a similar role for its three schools, codifying district best practices and policies in order to create a unified, coherent system. What is particularly powerful about MSAD15's approach is that all members of the school community are engaged in this effort, not just central office administrators and their consultants, as in many other districts. The extensive body of work they have produced is housed on a public wiki, making it accessible beyond the district as well.

Given that the grant period coincided with the rollout of the Common Core Standards, it is no surprise that many of the schools have been considering how the new Standards will affect their work. At Diploma Plus, for instance, one of the criteria for the purchase of new curriculum is that it be aligned with the Common Core.

Boston Day and Evening Academy began their work with the Common Core by revisiting their math and ELA learning targets. They quickly discovered that

though their ELA learning targets (housed in the Humanities department) were well-aligned with the Common Core, their math targets were not. BDEA's Humanities courses were designed to teach students to think critically about fiction and non-fiction, analyze texts, and synthesize information, skills which are all part of the Common Core Standards. The Math Department, on the other hand, had developed a skills-based curriculum designed to teach students the elementary and middle school mathematics most of them have never fully mastered. Though students also enrolled in Algebra and Geometry, these courses were heavily skills-based, rather than conceptual, in their approach. Math teachers have wrestled with this issue over the course of the year, determined to figure out how to align their work with the Common Core while still meeting the needs of their students.

MSAD15 undertook the most substantial project related to the Common Core. They set out to develop a set of district-wide power standards and performance assessments, as well as a teacher-designed assessment system, all aligned to the Common Core Standards. This work began in the summer with teams of teachers creating a set of units organized around concepts and themes. During the year, units were taught, evaluated, and revised. One of the middle school teachers described the work:

My team developed a unit of study we titled Balance. Our team consists of 95 students in grades 5-8, which is a balancing act in itself. This unit encompassed language arts, social studies, and science for our seventh and eighth graders, and language arts and science for our fifth and sixth graders. Our upper level students considered Balance in relation to the U.S. Civil War. They then found similarities, patterns of conflict, and the restoration of balance in other times in history, ranging from the Third Servile War to the civil uprising in Libya last fall. Our lower level students focused on biomes and how they need to maintain balance to survive.

Developing a district-wide understanding of Common Core-aligned assessment practices was not easy for MSAD15, in large part because understanding of the instructional model for competency education still varies from school to school and teacher to teacher. As they noted in their Final Project Report:

The Common Core Standards are pressing many competency education schools to revisit their competencies and revise their curricula and assessments.

The discrepancies amongst teachers and schools made it difficult for groups of teachers to make progress:

- *Time is spent trying to bring the least knowledgeable members [up-to-speed. And, slowing the pace] to match the [beginners] can be frustrating to staff who have a more advanced level of understanding or who feel an urgency to move forward.*
- *Even within buildings, teachers are creating practices that they term proficiency-based and student centered, and yet they represent very different philosophies or understandings.*

To address these challenges, the district:

- *Created a wiki to warehouse all tools and resources, including the new Common Core aligned units;*

- *Began the work of revising the district's graduation requirements so that they fully reflect the performance expectations of a proficiency-based system;*
- *Published a document that outlines the district's model of student-centered, proficiency-based instruction.*

At this stage in their development, MSAD15 feels poised to push their work to a deeper level across the district. Many of their practices are now codified, and the energy and momentum that exist at the elementary and middle school levels are beginning to take hold at the high school. Putting the Common Core Standards at the center of their curriculum and assessment development work has taken them to the cutting edges of contemporary education and shows the potential the Common Core has to invigorate competency education.

While many of the teaching and learning practices in competency-based classrooms look like those in any other high school—from teachers presenting material to students working on group projects—such classrooms tend to feature two more unusual pedagogical approaches which appear to be critical for the success of CE:

- Teachers and administrators recognize that it is essential to teach students explicitly what their learning targets are, what they mean, and what good work on the targets looks like.
- In tandem with teaching students about learning targets, teachers develop effective formative assessment practices that they use daily—and sometimes multiple times a day—to interact with students about their learning and progress.

Explicit Teaching about Learning Targets

At MSAD15, students as young as third and fourth grade describe this process as "learning to unpack the learning targets." One child explained, "We rewrite them in language that we understand." One of the high school teachers designed an ELA unit for freshman which he taught several times over the course of the year. He reflected on the process of revising the unit:

The first change that I made was to the process of teaching students to unpack the standards. Originally, the process was more about breaking apart the standards. That process wasn't working, so I developed unpacking guides. They are intended to extend student thinking from the beginning. Another thing that I learned was that students need to be constantly reminded of and re-focused on the standard that they are learning. I post the standards and concepts on the wall for everyone to see.

In response to this description, Director of Curriculum and Staff Development Karen Caprio, noted, "at the end of the day, this teacher has created a scalable, replicable and sustainable system, which will be the backdrop for future district work…

Despite considerable pedagogical variation overall, teachers and students in schools that use competency-based approaches explicitly engage in activities designed to clarify and demystify both the learning targets themselves and student progress towards their mastery.

This teacher in his quiet unassuming way went about his work and ended up with some of the best results for systemic change." Focusing explicitly on the learning targets was clearly a crucial part of his approach.

At **Casco Bay** and BDEA, teachers approach this task in similar ways. Casco Bay teachers begin each lesson and unit by describing the learning targets students will be mastering, usually categorizing them as either short- or long-term. For example, students might learn a short-term learning target related to a specific concept or idea within a day or two, but at the same time they will use this concept over the course of a longer block of time, as they write papers, conduct experiments, or undertake research. BDEA teachers introduce learning targets at the beginning of a course, unit or project, and students use syllabi and unit overviews to support their progress through a course.

MPTPA teachers work intensively with their students to break down the Cambridge Examinations test item by test item. All Cambridge questions are open ended and graded by external assessors using clearly-articulated grading criteria. Teachers and students report that analyzing student responses and how they are graded has empowered students and helped them to see that passing the Examinations is an achievable goal.

Engaging students in metacognitive understanding of what they need to learn and how they will learn it is not unique to competency education, but vibrant competency education consistently fosters it.

Formative Assessment

Though formative assessment is discussed above, it is worth revisiting here because of its essential role in competency education pedagogies. In competency education, formative assessment is part of the daily planning and instruction of teachers: as soon as students have settled into their work, teachers begin the task of figuring out where each student is in their understanding, what support they need, and what their next steps should be. This is often done through mini-conferences, as teachers move around the room meeting briefly with individual students. Other formative assessment strategies include:

- Dip-sticking, which means quickly scanning a class's understanding using hand gestures such as thumbs up or down, clickers, mini-white boards that students hold up for the teacher to check, or red, yellow and green cards that students keep on their desks and hold up to signal their level of understanding
- Do-Nows and Exit Tickets that enable students to synthesize their learning, reflect on their learning process, or demonstrate understanding of a particular concept, term or skill
- Logs and Journals which encourage students to document their learning, thinking and metacognition
- Check-lists where students can quickly document what work they have and have not completed, or what concepts they feel they do or don't understand

In competency education classrooms, these techniques are part of instruction rather than grading; they are essential to student learning processes. At MPTPA, Casco Bay, and MSAD15, teachers and administrators are deeply engaged in using muscular formative assessment practices to buttress their capacity to support students in meeting learning targets. Casco Bay Principal Derek Pierce is optimistic about the potential of this work: "We are early in this. There's an openness, but we are early in the work on using formative assessments to direct instruction…We are rolling out our Instructional Triads [critical friends groups] to begin digging into this issue." EL Coach Kippy Smith gave a specific example:

We recently worked with a teacher on how the teacher was using formative assessment to inform instruction. We visited the classroom and asked students what was going on: the feedback from students was resoundingly positive about what the teacher was doing and why. The teacher reflected that he knew more now about what he was doing than he ever had. He's in his second year with us, but had taught for eight years previously…he has struggled.

Clearly, formative assessments support teachers in their instructional practices, as well as students in their learning.

The learning environment at the Big Picture Learning and Diploma Plus sites is considerably different from the other schools because both programs have developed a self-paced instructional approach. At Big Picture, this means that students work in groups and individually with their advisors as they pursue their interests and plan their daily, weekly and yearly schedules. In some Diploma Plus classes, students can enter the classroom, settle down at a computer with headphones, and jump into the curriculum wherever they left off (the self-paced nature of these classrooms also helps mitigate the ongoing attendance struggles at DP schools). As one Charlestown teacher explained, "Students can work independently AND get the support they need. As they work, they have their headphones on, taking online notes, looking at instructions…It's been the most effective way to differentiate. I can work with one student to modify an assignment, or provide them with additional support and it's no one's business but their own." Brockton biology teacher Sue Bagge agrees:

Each day, I connect with them at the beginning of the class, and then again during the class. We are in an active learning relationship. I think managing a class with everyone working in different places is easier. They are all in different spots, so they aren't being disruptive because they are bored, waiting for the teacher to move to the next activity. There aren't students who finish "early" and have nothing to do. They immediately have their next task at hand and can keep going.

BDEA does not have a school-wide instructional strategy because of their commitment to teacher autonomy. BDEA teachers decide on the best instructional approach based on the course they are teaching and their own beliefs about effective pedagogy. However, the school still offers opportunities for self-pacing. While in some classrooms, teachers keep students moving at the same pace, working together on the same material, in others, students work on curriculum at their own pace, conferencing regularly with the teacher. More broadly, students who want to accelerate their progress can demonstrate mastery independently, while students who need more time can choose different options for support. Meanwhile, in the Distance Learning program, fifty students work mainly from home, receiving online support from BDEA teachers. They come to school a couple of times a week to work in small groups or one-on-one with a teacher.

The alternative education programs involved in this project have adopted instructional approaches that allow them to institute programs that embrace self-pacing.

Curriculum and instruction are a work in progress at all of the schools. Designing or adapting curriculum to accommodate their programs, missions, and students; adopting the Common Core Standards; embedding formative assessments in daily practice; and allowing for self-pacing are all part of the complicated, evolving work of competency education.

Three

Leadership for Competency Education Development

While building and district administrators fulfill the primary management functions at most of these schools, the work of developing a competency education approach has often involved distributed leadership models.

Such models "recognize that there are multiple leaders, and that leadership activities are widely shared within and between organizations. [They focus] upon the interactions, rather than the actions, of those in formal and informal leadership roles" (Harris and Spillane, 2008). The deeply collaborative nature of this work is evident at the site level, in the relationships between intermediaries and sites, and, in the case of **MSAD15** and **Vergennes**, in the relationships between districts and schools. Over the course of this project:

- Distributed leadership was evident in both formal institutional practices and informal interactions.
- Teacher leadership provided considerable momentum in the institutionalization of competency education practices.

At the heart of distributed leadership is the belief that positional authority is limited in its effectiveness. Most of the schools were intentionally structured so that the expertise, energy and creativity of the full community could be leveraged in the work of adopting competency education. While this was particularly evident in the relationships between teachers and administrators, there were also numerous instances of student and parent leadership, particularly around the need to communicate the effort to external stakeholders.

It is important to note that distributed leadership is not a necessary condition for competency education, nor, of course, is it limited to competency education environments. Many of the schools already had distributed leadership in place for other philosophical or educational reasons, some of which dovetailed with their rationales for competency education. Regardless of how and why it was achieved, however, distributed leadership does seem to be a valuable lever for creating the kind of deep change entailed in the adoption of competency education.

All of the schools have a formal administrative leadership with recognizable features: principals and assistant principals address the most serious student issues, supervise and evaluate, spearhead outreach to external stakeholders, and engage in

strategic planning and development. At the same time, many of the leaders work in tandem with their faculty to address these tasks and others.

Serious Student Issues: At Big Picture Learning, Diploma Plus, Casco Bay, and Boston Day and Evening Academy, each student has an advisor who is the go-to person for students in academic or personal distress. Advisors are charged with getting to know their students, developing strong relationships with them, and supporting them when necessary. However, if a student is in a prolonged crisis, or an event at home or school requires legal intervention, administrators are called upon.

Distributed leadership was evident in both formal institutional practices and informal interactions.

Supervision and Evaluation: Administrators take seriously their roles as official staff supervisors and evaluators. At the same time, many schools have established other crucial mentoring and advising roles. At each school that works with an intermediary (BPL, DP, EL, NCEE) or partner (BDEA works closely with the Boston-based WriteBoston and Center for Collaborative Education), coaches and support staff from the intermediary work intensively on site to support teachers and other staff in their implementation work. At **Casco Bay,** for instance, an Expeditionary Learning School Design Coach is on site a couple of times a month, visiting classrooms, meeting with teachers, and planning professional development sessions. In addition, teachers work in critical friends groups facilitated by teacher-leader Assessment Coaches.

Strategic Planning and Development: While administrators have often taken the lead in shaping a school's vision for competency education, teachers have ultimately put that vision into action. As schools revise graduation requirements, for instance, academic departments must play a central role in articulating their learning targets, defining mastery, and establishing how student progress will be tracked.

At MPTPA and MSAD15, the decision to adopt competency education was made at the district level. Both districts invested in the effort by partnering with intermediaries: NCEE and RISC, respectively. From the beginning, both districts enrolled school administrators in this work, and asked them to engage their staffs in the effort.

At MPTPA, leadership and staff collaborated with NCEE to design the Cambridge implementation plan. Initially, teachers were skeptical of the program, fearing that their ability to construct curriculum and assessments to meet the needs of their students would disappear, along with their much-valued professional autonomy. Then, through a series of meetings with the school's administration and NCEE coaches, as well as participation in a substantial Summer Professional Development Institute, teachers began to take ownership of the program. As one MPTPA teacher explained, "I was nervous that it would be too canned but it's not. I am able to incorporate my style into the Cambridge Curriculum." As MPTPA's project began to take shape, teachers took the lead in focusing the school's work on the development of a robust formative assessment process.

In the early years of competency education at MSAD15, RISC worked closely with both district administrators and school faculty and administration. While the MPTPA staff needed a process that would help them adjust to, and ultimately take ownership of, an externally established system,

MSAD15's teachers and administrators had to be fully trained for the work of creating their own competency education system. RISC provided the district with its learning management system, as well as extensive professional development. Now that MSAD15's effort is well into its fifth year, the district's capacity has grown to the point that they have significantly less need for RISC support. For this project, they hired a consultant who has worked closely with both middle and high school teachers in the development of the next stage of the work.

As Harris and Spillane imply, one of the constituent causes and effects of distributed leadership is collaboration, which has been key to the implementation of competency education at every school.

With the exception of **MPTPA,** all of the schools have created—and are still creating—their own competency education systems. Though several work closely with intermediaries and partners, the primary design work had been undertaken by teachers. This is part of an intentional strategy built on the belief that teachers (or, at BPL, Advisors) are the on-site academic experts, able to articulate what students should know and be able to do at each step of their high school career, then design appropriate assessment systems to measure student progress and growth.

School leaders are not trained to do this work, which requires a deep understanding of discipline-specific content and skills. As **BDEA** Director of Curriculum and Instruction Alison Hramiec put it, "I see my job as the designer of systems. The teachers actually have to put the content into the system." At each site, teachers were deeply invested in fleshing out these systems so that they would work in the classroom.

The power of teacher leadership was perhaps most evident at Vergennes Union High School. At Vergennes, students in grades 7-12 share a building, with seventh and eighth graders in one wing and high school students in another. There are six hundred students enrolled in the full program, and enrollment is dropping at a fairly rapid rate due to the failing economy in rural Vermont. Not too long ago, the building held over 1,000 students. Still, the faculty is a stable, committed, and collegial group of practitioners who have worked together for a long time and know each other well. School leaders, who are long-time believers in the power of teacher leadership, encourage their deep investment in the school community.

Principals Peter Reynolds and Ed Webberly, as well as the district's Curriculum Director, Carol Spencer, have signaled their support for developing a competency education approach. They hope that within the next decade the district will be able to replace the Carnegie Unit with its own performance-based graduation requirements, and they have empowered teachers to move the school in this direction.

Teacher leadership provided considerable momentum in the institutionalization of competency education practices.

That empowerment was visible in a full-day professional development session, organized and facilitated entirely by teachers. The focus of the day was "Tuning and Validating Teacher-Developed Performance Tasks." The faculty met in the library, and a charismatic, humorous teacher kicked off the session by speaking eloquently about how she has come to believe fervently in the power of competency education. She closed her comments by saying, "This is our opportunity to define for ourselves what we believe our students should learn. We are in the process of defining learning in our school. This is our opportunity to own this process as a full staff."

Perhaps the most powerful thing about this teacher's words was that she was speaking extemporaneously, standing in for a close colleague, Kristine Kirkaldy, who was struggling with laryngitis. Kirkaldy and several colleagues had designed the professional development session, intentionally organizing it to place facilitation and leadership in the hands of teachers. Several teachers had volunteered to share a performance task they had created and piloted with their students. They were assigned tables and the rest of the faculty joined them in groups of five. At each table, teachers used a Validation Protocol created by Kirkaldy and her colleagues (adapted from the protocol developed by the Center for Collaborative Education's Quality Performance Assessment Project) to "tune" (give feedback and improve) the performance tasks. Already trained in Critical Friends and tuning protocols, the teachers had observed a fishbowl demonstration of the Validation Protocol in the morning.

At each table, lively conversation ensued. As the day came to a close, there was a collective sense that it had created a powerful launching pad for Vergennes's learning project. In the following weeks, funds were made available to any teachers who wanted to plan, pilot and validate performance-based projects over the course of the year. The response was enormously positive: 24 teachers—well over half the faculty—created 36 new tasks, and a group of teachers formed a "Tuning/Validating" committee to review each task, providing feedback and ultimately determining whether the tasks could be considered true measures of competency according to the school's performance-based graduation requirements. All of this work was undertaken at the teachers' initiative, and under their own supervision, commitment, and sheer determination. Though the high school principal had to take a long-term medical leave in the middle of the winter, the work continued, gathering momentum as the year progressed.

While teacher leadership at Vergennes might be characterized as grassroots community activism, at other sites such leadership occurred within more institutionalized structures. Before Alison Hramiec became the Curriculum and Instruction Director at BDEA, faculty leadership was at an all-time low. Teachers worked hard in their classrooms, committing their energy to meeting the needs of students, but were less invested in the overall school program. Hramiec and Headmaster Beatriz Zapater worked assiduously to create meaningful structures to elicit teacher concerns and suggestions. In the first year, they had a difficult time finding volunteers to join the newly revamped Instructional Leadership Team. This past year, the team had grown to 17 members. Though Hramiec acknowledged that this is a fairly unwieldy size, the level of active leadership is exactly what she and Zapater want to nurture. Indeed, competency education seems to encourage—and thrive under—such leadership.

Three

Competency Education, Data, and Information Technology

While competency education can be managed effectively in low-tech ways, schools are hungry for database systems to support their work.

As in the case of curriculum, to date the absence of appropriate off-the-shelf options has forced most of the schools to retrofit commercial school management products or design their own systems. Although newer systems have started to emerge that are more friendly to mastery-based approaches and flexible enrollment scenarios, the pace of technology innovation far exceeds the pace of school district procurement cycles, and the intense demands of competency education program design can make it difficult for teachers to find time to learn new technologies. Casco Bay Principal Derek Pierce knew it would be unwise—and likely premature—to introduce a new learning management system to teachers consumed by their efforts to transform the school's approach to assessment and grading. He and his teachers know they will need to deal with the systems challenge sooner rather than later, and unfortunately they will likely need to reconfigure tools they design today to work with technology they adopt tomorrow.

Diploma Plus has made the largest investment in developing a customized system to support competency education. For the better part of eight years, Diploma Plus has worked with a web application developer to build its own *DiplomaPlus.net (DP.net)* learning management system. The project has been highly iterative. What started as a simple tool to manage teacher webpages has, after waves of feature requests from DP teachers and staff, evolved into a robust system that supports online course delivery and student performance tracking. Within a few clicks, students can find their courses, work on assignments, submit work, and flag work for their online portfolio folders. They can also track their overall progress and performance. Interestingly, the evolution of DP.net has mirrored the pattern of competency education development overall: an initial focus on the development and articulation of the mastery system—tracking performance against learning targets—followed by feature requests designed to 'unhook' courses from time-related data requirements (start and end dates, semesters, etc.).

School experiences with technology suggest that:

- Performance tracking is often the first priority for competency education system building. A simple system can go far, but there is still far to go.
- Schools must often—still—straddle traditional and competency education systems.
- Neither packaged courseware products, which have little flexibility, nor learning management systems that allow for maximum customization but offer no content, meet teacher needs for online curriculum delivery systems.
- A human system needs to work in tandem with the performance data system.

Many of the schools keep students updated on their progress using low-tech tools like wall charts, stickers, and student initials on lists of standards. Indeed, many schools find these tools valuable even when they have more robust technology systems in place. What matters most is that teachers and students have some way to communicate learning targets explicitly and record that they have been met.

However, in this era of digital data, the quest for an effective computer-based learning management system is inevitable. Several schools have adapted data management products like PowerSchool or Infinite Campus to support performance tracking, but this experience has often been frustrating. These tools lack key features they want like support for self-paced learning, the ability to track proficiency development across courses and years, and appropriate levels of access for different types of users such as students, staff, and parents.

Like Diploma Plus, **BDEA** decided existing tools wouldn't do the job. When they wanted a better tool for tracking student progress on benchmarks and competencies across courses, they contracted with a database developer to adapt a system called EASE for their use. The result is a simple user-friendly tool that allows a teacher to click on a student's name and open a screen that displays all the BDEA competencies and benchmarks and shows which the student has met (see Appendix 10 for a sample report).

Such simple performance tracking methods seemed to be working well for most sites, but Diploma Plus has pushed the envelope. Thanks to some smart backend algorithms, students can use DP.net to get a predictive look at their final grade for a course based on the work they have completed (or not completed) to date. This glimpse into the future might convince the student to submit missing work, redo an assignment to achieve a higher performance level, or perhaps seek help to do better on a future assignment. This feature shows how such systems can not only record but enhance progress. Other items on DP's systems wish list include:

- A better student learning plan management tool
- A stronger formative assessment system
- Better hardware so that teachers and students can maximize systems once they have them

Neither packaged courseware products, which have little flexibility, nor learning management systems that allow for maximum customization but offer no content, meet teacher needs for online curriculum delivery systems.

Clearly performance tracking is only the beginning of what technology can bring to competency education.

Schools have often had to build their competency education systems in the context of other district systems or system-related requirements. Many eventually need to translate their mastery-based systems into traditional methods for communicating student performance and progress such as letter grades and credits. DP.net, for example, is specifically configured to allow a teacher to input a performance level relative to a learning target (1, 2, 3, 4) that will also appear as a traditional grade. At

Technology makes it easy to package online instructional materials with an array of features like multimedia, game-based interactivity, diagnostic assessments and adaptive instruction, performance reports, and much more. For teachers expected to develop curriculum materials and put them online to support self-paced learning or better scaffolding for struggling students, the lure of online curriculum systems like Aventa, Odysseyware, or other targeted products is strong. Such systems are often designed to be competency education-friendly, integrating content and performance tracking features as one.

Performance tracking is often the first priority for competency education system building. A simple tracking system can go far, but there is still far to go.

Big Picture's Rochester school, advisors convert student performance into final course grades and complete BPL's highly detailed narrative assessment for each student. This also allows the school to integrate data on BPL students into the district's student information system.

Similar issues surface when students transition to college. Some schools simply provide their own transcripts; most, but not all, colleges are fine with such alternative program records. In Vermont, Big Picture developed a new two-sided transcript format that included both a more traditional and a mastery-based record. When they showed it to a focus group of college admission representatives, they preferred the traditional side, but thought the transcript as a whole was fine, again classifying it as alternative. When the sites have run into trouble, they have been able to provide a standard transcript as needed.

Teachers have a range of views on such products. As described above, some schools are developing their own curriculum, because they want to or because they feel that off-the-shelf instructional materials don't fit their competency-based approach. However, some schools would gladly buy rather than build, if they could. This has been a recurring discussion for the Diploma Plus team. Recently, administrators at a New York DP school decided it might be more strategic and faster to buy online courseware and work with teachers to fold in DP's performance-based and blended learning methodologies. For other teachers, the answer lies in the middle. They want curriculum systems that provide a base of solid content and management features but are also highly customizable so they can add, remove, align, chunk, differentiate, etc.

Schools must often—still—straddle traditional and competency education systems.

Current generation learning management systems can now support such a combination of buy and build, and it seems likely that the near future will see significant changes in how schools use technology.

A human system needs to work in tandem with the data system.

The important point about information and technology in competency education environments is that people and relationships are more important than systems. At one Diploma Plus program, teachers meet as a team to review student progress and needs and generate an email with a list of names and needs which goes to everyone in the school. One teacher uses her smartphone to access this email during class so that she can check whether her students are behind in a class or have been recommended for support. Technology enables anyone in the building to stop a student and encourage them, prod them, or talk about support, whether it's the teacher of the class the student is struggling in, her advisor, or a former favorite teacher. This is a strong reminder that even though a student or teacher can go online and track performance, people need to figure out how to use that powerful information effectively.

Four

Learner Support

We learned (or perhaps re-learned) the importance of having all decisions about differentiation/student support be grounded in the learning targets. Only then can we most effectively use time and staff flexibly and create alternate pathways to the course standards so all kids can accomplish authentic projects alongside their peers.

TEACHER AT CASCO BAY HIGH SCHOOL

Students need the opportunity to continue learning material even after a particular course has completed the topic of study.

Support for students in competency education schools spans three key areas:

- Students need the opportunity to continue learning material even after a particular course has completed the topic of study.
- Students typically need guidance as they make decisions about the path that will lead them towards a high school diploma.
- Providing students with progress-tracking tools creates a powerful opportunity for them to have agency in their learning trajectories.

Schools have created different strategies for addressing these three areas, but all have learned hard-won lessons about the necessity of designing support systems to address the particular challenges of competency education.

Schools which embrace competency education must think creatively about how to provide students with the opportunity to achieve mastery, regardless of how long it takes. This is a time issue, as described above, but it is also a support issue. All of the schools have explored ways to create such support for students. At Casco Bay, MPTPA and Vergennes, where students primarily learn as a single-paced cohort, one solution has been the creation of a X-Block system in which a portion of the day is not assigned to coursework, but can be used by teachers and students to address unmet learning needs. One Casco Bay teacher explained, "We learned (or perhaps re-learned) the importance of having all decisions about differentiation/student support be grounded in the learning targets. Only then can we most effectively use time and staff flexibly and create alternate pathways to the course standards so all kids can accomplish authentic projects alongside their peers." At Vergennes, the middle of the day is used for "call-backs," two 30-minute periods during which students and teachers make decisions about where students go to get the individual or small-group support they need. Not all students need support because they are struggling: at several Expeditionary Learning schools, an "Acceleration Block" has been created to support students who are ready to move at a quicker pace.

As newcomers to competency education, **MPTPA** began the year with a heavily-loaded academic program. Within a few weeks, they realized they would need to modify the program to meet their students' needs. They quickly changed from a rotating A/B day block schedule, to a schedule that combined regular and block periods to give students the chance to learn to manage their work from one day to the next. As Principal Andrew Skarzynksi reflected in their final project report:

In hindsight, we would have spent more time identifying additional instructional opportunities for students, and examining the role of anytime, anyplace education. Due to a variety of factors, such as academic need, different learning backgrounds, and a lack of prior exposure to concepts such as "the historian's craft," we discovered a distinct need to increase many students' learning trajectories. We would now incorporate more alternative learning approaches, such as the flipped classroom and extended day learning. We initially began with a summer academy and realized early on that we need to incorporate more opportunities for "any time, any place education.

Students typically need guidance as they make decisions about the path that will lead them towards a high school diploma.

In the programs designed to be self-paced, interventions and support happen within the classroom. As teachers discover that a student needs additional support or a modification of an assignment, they immediately work with the student to make adjustments.

As students move through a competency education system, they must make many critical decisions about the path before them:

- At **Big Picture Learning,** students must select appropriate internships and design independent projects.
- **Diploma Plus** students must identify which courses will best help them work on the learning targets they have yet to master.
- When **BDEA** students do not successfully complete all the benchmarks associated with a module, they must decide if they will repeat the course, undertake an independent study, or enroll in a comparable blended or online course that will allow them to demonstrate competence in the outstanding benchmarks.
- At **Casco Bay,** students have to figure out when it's appropriate to ask for an extension, when they should attend Mud Season or Summer School, and which Intensives will help them meet the learning targets required for graduation.

If students are to make sufficient progress towards graduation, they need to make wise decisions, especially since the path they are following has more forks than at traditional high schools, where one's route is determined by passing and failing courses.

For many of the sites, an institutionalized advisory process is the primary support mechanism for student decision making and overall progress. Advisors are assigned a small number of students who they come to know well. Advisors and students often remain together over the course of several years, developing deep relationships which frequently extend to the student's family or adult supporters.

At several sites, the advisory system has rendered conventional guidance departments obsolete. Especially in small schools, advisors schedule and program students, since they are the adults most likely to know exactly what a student needs at a given moment. In general, teachers and administrators feel that the advisory system is a critical ingredient in their success. With a caring adult on site who knows about their academic and personal circumstances, students cannot get lost or be forgotten. Instead, they have an advocate who can creatively address issues as they arise.

Providing students with progress-tracking tools creates a powerful opportunity for them to have agency in their learning trajectories.

But teachers and administrators also expressed some ambivalence about this additional demand. One long-time teacher explained:

This work is incredibly demanding. It takes everything I have. This year, for the first time, I am not an Advisor, and honestly this is the first year I have felt like this work is manageable. The demands of advisory push many of us to the edge of sustainability. It's challenging enough to keep track of student progress in our academic courses. Advisory requires that I also track the progress of students who are often not in my classes…and I have to do it for ALL of their coursework. It's rewarding to work with students in this way, but it's also exhausting.

At the moment, however, most teachers wholeheartedly agree that the benefits of the advisory system outweigh the costs.

At a voluntary summer professional development session at Casco Bay, the opening ice-breaker put staff in groups to create a "headline" that would capture the biggest accomplishment of the coming year. When teams shared their headlines, three of the four celebrated the fact that students had managed to track their own progress on learning targets. Amongst much laughter, teachers joked about their exhaustion and frustration as students asked over and over for status updates: "Did I meet that learning target?" "How many more learning targets do I have to meet?" "What score did you give me on that learning target?"

Student concerns about their progress are certainly legitimate. In a system that requires keeping track of numerous indicators of progress, they feel the pressure to know exactly where they stand. Anxiety caused by lack of clarity can easily interfere with a student's sense of efficacy and agency. Students can't learn how to make good decisions about their work if they don't know how close they are to meeting their learning targets. They can't take responsibility for accelerating or slowing their pace if they are unsure about their level of mastery. For many sites, the need to support learners by developing transparent tracking tools was an unexpected design component.

At Casco Bay, the newly-anointed Assessment Coaches put their minds to this problem and used Excel to create a Student Assessment Progress Tracker (see Appendix 7). Students would be asked to use the Tracker to track their own progress, updating it as they completed learning targets. In October, School Coach Kippy Smith reported that in recent focus groups, "students reported much greater clarity in understanding about the role and purpose of habits of work and formative assessment tasks. It's significant to find this new, unified shift in understanding on the part of teachers and kids in our seventh year." Casco Bay's teachers were finally able to responsibly abdicate their role as "human grade-books."

At Diploma Plus, *DP.net* is designed to provide both students and teachers with up-to-the-moment data about student progress on competencies. Each time a teacher posts an activity or project for students, she identifies the Diploma Plus Competencies embedded in the task. As students complete work, teachers assess their mastery of each competency. Students can log on at any time to see which tasks are complete, which targets have been met, and even what their data predicts about their future progress (when and whether they will master a target, what their course grade will be, etc.)…Though not all DP teachers use the system, those who do find it is a powerful tool for providing students with real-time information about progress (see Appendix 11 for a screenshot of the DP assessment trend analysis).

While DP's approach to tracking student progress is relatively high-tech, and Casco Bay's system could be characterized as low-tech, at **MSAD15,** this tracking work is done with no tech. When visitors walk into MSAD15 classrooms, the first thing they notice is the hand-written charts that cover the walls, tracking each student's progress. The fully transparent nature of this 15 approach seems to work for students and teachers alike, though it is admittedly laborious to complete the charts and share student progress across a team of teachers.

A panoply of student supports can enable even the most struggling student to make progress in a competency education environment.

Five

How Students Experience Competency Education

Student attitudes toward owning their own learning are a crucial indicator of the value of competency education, but it is important to note that competency education also produces some remarkable results. At Casco Bay, competency education is the air students breathe. The school has used its Expeditionary Learning framework to create powerfully engaging classrooms.

At the heart of competency education is the working hypothesis that learning is most powerful and satisfying when learners know their ultimate goals and can manage their efforts accordingly.

We see this effect when young people practice layups for hours on playground basketball courts or aspiring musicians repeat a challenging passage over and over until they get it right. As they see and feel their own progress, these learners are motivated to approach their tasks not to "get it done," but to "get it right." The question is whether competency education can extend this experience to the academic environment, and the best people to answer it are students themselves.

In focus groups and informal conversations alike, students are articulate, passionate advocates for their schools (see Appendix 2 for the Student Focus Group Protocol and Appendix 3 for Student Demographics). Some, like the students at **Casco Bay High School,** have extensive experience with competency education, having previously attended the similarly organized King Middle School. Others, like the students at **BDEA,** have more typical educational backgrounds, often in multiple middle and high schools. Though students used different vocabularies and spoke with varying degrees of intensity, three themes emerged in their discussions of their educational experiences:

- Students are motivated and engaged by the clarity and transparency of competency education and the way it lets them control their learning, even as they also acknowledge its challenges.
- When teachers are transparent and fair about their decisions, students accept that different students might work on competencies in different ways and for different amounts of time.
- Students understand that it takes time to develop good competency-based practices and they want to be partners in the effort.

The stories of four soon-to-be-graduates at BDEA exemplify student enthusiasm about competency education. A diverse group, all four students love BDEA and credit it with saving their academic lives.

Despite their passionate appreciation for the staff and the program, Monique[2] and Kiara's BDEA careers have been far from smooth. Monique has been in the Day Program for four years, and arrived with significant learning needs specified in her Individualized Education Plan (IEP). As a serious student, Monique approaches her coursework with determination and her supportive teachers are knowledgeable about the requirements of her IEP. But in a competency education environment, Monique can only move forward if she masters the learning targets, and in math she found this an almost insurmountable task which ultimately required her to repeat one module three times.

Students are motivated and engaged by the clarity and transparency of competency education and the way it lets them control their learning, even as they also acknowledge its challenges.

2 The names of students have been changed.

She chose to repeat the module, rather than tackling it as an independent study or online course, because she wanted the particular learning supports provided by a classroom teacher. At the same time, Monique was able to continue on track with her other courses, even as she moved at a slower pace through her math learning targets. BDEA's flexibility made it possible for her finally to graduate.

At 20, Kiara has been enrolled in the school's Day program for three years. She speaks confidently about the program and her struggles to succeed as an inconsistent attender, caught in a cycle of dropping in and out. Kiara is very frank about the extent to which her life outside of school interferes with her capacity to master learning targets. Despite her spotty academic record, she describes BDEA as her true home, the place where she is welcomed back and given another chance. Because BDEA is organized around competencies, Kiara can pick up where she left off, moving herself forward, rather than being forced to fail because of extensive absenteeism. Though she is a very different student than Monique, Kiara also prefers to be in a classroom, explaining "I'm not as motivated to do my work when I'm on my own. I'd rather have the teacher running the class."

BDEA has been a very different experience for Luis. Luis found the school at the age of 19 and was determined to graduate as quickly as possible. By enrolling in a full schedule of courses in both the Day and Evening programs, he mastered an impressive number of learning targets in six months. Aggressively taking advantage of the opportunity provided to all students by BDEA's flexible structure, Luis repeatedly asked his teachers to allow him to demonstrate mastery. He moved quickly through the school's benchmarks and was able to "test out" of a number of courses. As BDEA's Director of Curriculum and Instruction recalled, "Last spring, [Luis] was in my office every week or two needing his schedule changed to accommodate the rapid pace of his learning." For Luis, the self-paced nature of the school was a godsend: he was most happy when enrolled in independent studies and online courses, explaining, "I just want to do my work, and get it done without having to listen to the teacher all the time."

Where Luis is intensely focused on his schoolwork, Shantalle splits her days between a morning job and coursework in the Evening program. Over the course of a year at BDEA, she has worked assiduously to meet the benchmarks associated with each course. She is an independent student, and expects to be treated as someone who is in charge of her learning experience, planning her graduation for the upcoming spring.

When teachers are transparent and fair about their decisions, students accept that different students might work on different competencies in different ways, for different amounts of time.

Like the students at fellow alternative programs **Diploma Plus** and **Big Picture Learning** (BPL), all of these BDEA graduates-to-be were motivated by the flexible nature of their programs, those programs' capacity to provide students with opportunities to test out of coursework, and their commitment to providing students with individualized or personalized courses of study through independent projects, internships, or online and blended learning opportunities. The learner-centric nature of these alternative programs provides students with a crucial sense that "I can see the end here, it's within reach, and there are different paths I can take to get there."

The counterpoint to these benefits, however, is the challenge of self-pacing. BDEA, for example, struggles with high absenteeism rates and students who lack strong self-regulatory skills. Big Picture's fully individualized program creates a lot of "open space" in students' lives which both students and Advisors must make proactive efforts to "fill." For some students, like Kiara, the need to self-pace and self-regulate is too much of a challenge. These programs have developed practices and policies that help students step up to their responsibility—and students appreciate these "anti-slacking" measures—but they also have also found it necessary to identify some bottom line expectations about participation and pacing.

MSAD15 and **MPTPA** face different challenges in terms of pacing. MSAD15 middle school students and teachers talk about establishing a minimum pace described as "teacher pace or faster," language that was fine-tuned in part because of parental concerns about teachers ceding control of instruction. Middle school students talked about how their teachers give them a great deal of freedom but also make it clear that they expect everyone to meet a minimum benchmark. Teachers talked about trusting the class to strategize about how to make sure that all students were making reasonable progress. MPTPA students and staff face the challenge of working with a curriculum that has been developed around year-long courses, with end of course examinations. While administrators tell teachers that it is okay for students to progress through the courses at their own speed, students and teachers talk about feeling some pressure to "keep up."

Students understand that it takes time to develop good competency-based practices and they want to be partners in the effort.

Self-pacing is also an issue at mainstream programs. Casco Bay High School devoted part of its Summer Professional Development Institute to refining a new policy called "Be Accountable" that outlined guidelines and requirements for student self-regulation and pacing (see Appendix 4). The school faculty had unanimously approved the creation of the policy, as student "slacking" and "disorganization" reached epic proportions. The goal of the policy was to support students in learning and adhering to Habits of Work (HOW): essential skills students need to be successful in college and throughout their lives.. The "Be Accountable" Policy articulates the nature of this new competency, how it should be demonstrated, how it will be assessed, and what it will "buy." Students who demonstrate strong Habits of Work will be given as much time and support as they need to undertake a task; students with poor Habits of Work will not receive this benefit.

Students and teachers acknowledge these challenges and are working to find ways to overcome them, but they hardly detract from the benefits of the self-regulation and motivation students experience in competency education.

Competency education ultimately asks all students to reach the same level of proficiency, but allows them different paths and timeframes to achieve that goal. For example, when an English teacher at Diploma Plus's **Champion High School** in Brockton, Massachusetts asked students to write an analysis of key themes in a text, she pressed Charisse to submit a detailed two-page description, but asked Antoine to turn in an acceptable

half page. In a traditional setting, Charisse might complain about the apparent inequity of this situation. However, in this competency-based setting, Charisse understood that she was working her edge—a level of scaffolding and proficiency related to the learning target that Antoine, an ELL student, was not ready to undertake. Antoine, travelling a longer road, needs additional support. Equity comes in the fact that both students are stretching themselves as they work towards the same learning target.

As one might imagine, Charisse wasn't totally immune from the feeling that she had "more work" than Antoine on a given day. Still, she, like many other students, espoused the philosophy articulated by an MSAD15 student: "what comes around goes around." The student who easily reaches learning targets in ELA today, may struggle in math tomorrow.

Many of MSAD15's high school students are veterans of competency education, with three or four years of experience, enough to have become experts alongside their teachers. Students reported, for instance, that they had warned district administrators not to expand the program too rapidly at the high school because "it is radically different" and would take time for students to accept. "Start one grade at a time and work your way up," they advised, adding that there would also be a significant learning curve for the teachers.

MSAD15 students talk about working with their teachers to make competency education work, expressing appreciation for teachers who are open to their suggestions and invite them to make decisions. Four middle school students explained that "We unpack the standards" and then determine the best way to group themselves for a particular activity or recommend particular structures to organize learning more effectively. Teachers emphasized how they trust their students "to help us figure out what works best for them." "My students usually come up with some great ideas," said one, "so I trust them."

Tenth grade students at **Vergennes Union High School** echoed these sentiments. Teacher Leader and Spanish Teacher Kristine Kirkaldy has spearheaded the school's effort to create a competency-based system, making her case teacher-by-teacher, and student-by-student. Supported by an administration that believes deeply in teacher leadership, Kirkaldy and a small cohort of colleagues have managed to create momentum among faculty. At the same time, many students have been resistant to abandoning their well-understood Carnegie Unit system for a model that seems to require a lot of additional effort.

Undaunted by the push-back, Kirkaldy has tackled the issue head on by meeting with her most vocal critics to hear their concerns and make her case. Two tenth graders were recent converts who had participated in a pilot version of the Portfolio process. The students described how much they appreciated the opportunity to "finish" their work to the highest level possible by having the time to keep working on tasks without feeling crunched by arbitrary deadlines.

Kirkaldy's deep commitment to student leadership led her to create a small student team to be ambassadors for the new portfolio-based graduation requirements. In this role, they meet with current seventh grade students to explain the new system and respond to questions and concerns. Having shared the floor with high school teachers, they confidently and sympathetically explained that the "teachers are still figuring this out, and getting on the same page. We helped them figure out the language they could use that younger students would understand."

Student attitudes toward owning their own learning are a crucial indicator of the value of competency education, but it is important to note that competency education also produces some remarkable results. At Casco Bay, competency education is the air students breathe. The school has used its Expeditionary Learning framework to create powerfully engaging classrooms. In January, students presented their work to their fellow classmates

after completing a week-long intensive study of a single subject. One performing arts group wrote songs and performed them in their band. Another group learned about textiles, undertaking sewing, knitting, and other hand-work projects. The topics studied were as varied as teacher and student passions and were shaped by the specific learning needs of the students. The presentations were humorous, compelling, and connected to the real world, and emphasized the school's commitment to sharing learning experiences. The students were excited, confident, and fully engaged. After one young woman read an intense personal poem, the entire school gave her a standing ovation.

A few months later, an eleventh grade student met with the school's Assessment Team (made up of teachers and administrators) to present her plan for leading a weeklong intensive course on "Urban Homesteading" with a fellow student. Their plan was for students to learn about the skills and practices of early homesteaders and then find ways to apply those practices in their modern urban life in Portland, Maine. Using a rubric, the Assessment Team asked clarifying questions, made a few suggestions, and ultimately approved the course.

At Casco Bay, as in the other schools discussed here, students have authentic opportunities to lead, make decisions, manage their own learning, and facilitate the learning of others. The words and actions of these students reveal that competency education is not just a theory promulgated by adults, but a powerful factor in student experience, one in which they are deeply invested and engaged.

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Conclusion and Looking Ahead

It can be hoped that the current rapid development of competency education will enable schools and districts to identify, adopt and modify promising practices without needing to invest as many years and dollars, not to mention labor, as those who pioneered these efforts. But as this project comes to a close, there are still many issues to explore, both within New England and across the country.

Over the course of this project, the willingness of the organizations involved to share their practices, struggles and successes has made it possible to begin to map the terrain of competency education in New England.

These districts, intermediaries, and schools are the first to say that their practices are evolving and that they have few mature models to look to. There is still an enormous amount to learn, and even more to design, but many aspects of competency education are beginning to come clear.

Competency-based education appears to benefit from creative effort over time in a number of areas:

- Defining mastery.
- Developing comprehensive assessment systems.
- Designing innovative ways to allow students to self-pace.
- Training practitioners in assessment skills.
- Designing and modifying curriculum so that it is organized around facilitating and measuring mastery of learning targets.
- Coaching leaders to institute distributed leadership models.
- Developing and adapting learning management systems to support real-time feedback on formative and summative assessment data.
- Instituting support for learners as they navigate competency-based systems.
- Establishing comprehensive communication strategies to ensure that stakeholders inside and outside the school walls are aware of the work that is being undertaken.

This is an extensive, interconnected and complex list. Best practices in each of these domains are still relatively nascent, and new domains are likely to emerge in the coming months and years. Nonetheless, it provides a useful snapshot of the current issues in the field.

There is good reason to believe that competency education efforts will continue to take root and grow. In many states, educators and policy-makers at all levels are looking for new pathways in the face of stagnant student performance data, persistent gaps in student achievement across ethnic and socio-economic groups, and ever-tighter school budgets. Several indicators suggest that competency education may become an increasingly viable choice:

Friendly policies have passed at the federal, state and district level, making it possible to establish coherent programs in schools, programs and districts.

It is now possible to receive a waiver for the No Child Left Behind ACT, freeing states to develop systems that they believe will better measure and support the progress of their students. At the same time, thirty-six states have abandoned old seat-time requirements and "adopted policies that allow districts or schools to provide credits based on students' proficiency in a subject" (EdWeek: Sean Cavanagh, 3/7/12). In New England, New Hampshire and Maine have fully embraced the development of competency-based assessment systems and are developing policies and funding to support the effort. At the district level, Portland, MSAD15, and others are reorganizing their systems and practices to support full implementation of competency education.

The Common Core Standards are more amenable to competency education.

While it is unclear exactly what role these new standards will play with regard to competency education, the work of Boston Day and Evening Academy's Math Department suggests that aligning with the Common Core may help programs develop competencies that are less skills-based and more grounded in conceptual and analytic college-readiness standards.

Schools and districts are developing increasingly mature competency-based pathways and approaches that others can study and potentially replicate.

When this project began in the fall of 2010, it was a challenge to identify competency-based programs, particularly in New England. When people talked about competency education, they most frequently referenced the work of Adams50 in Westminster, Colorado and Chugach, Alaska. As a result of this project, as well as the ongoing work of intermediaries such as the Re-Inventing Schools Coalition, a number of new schools to learn from have emerged, including Boston Day and Evening Academy, Casco Bay High School, and the MSAD15 elementary and middle schools, as well as Newfound Regional High School (EdWeek: Catherine Gewertz, 2/8/12).

Rapid technology innovations are simplifying the work of instituting comprehensive competency education information systems.

Several new learning management systems are developing ways to organize course content around competencies (rather than class lists or course dates), as well as sophisticated analytics that allow teachers, students and families to instantaneously view student progress toward mastery. These systems also provide practitioners with user-friendly ways to design and adapt curriculum: Canvas and BrainHoney are pioneers in this work, but others are quickly adapting. This new flexibility will allow schools to efficiently create increasingly customized programs for individual students and cohorts.

Blended and online curriculum increasingly provides opportunities for self-acing and differentiation.

Projects like the STEM-oriented Flexbook are creating repositories of curriculum material that practitioners can customize for their students. Publishers of blended and online intervention programs, like Achieve3000, Read180 and ThinkThruMath, are developing platforms that launch with robust diagnostic assessments that individually tailor material to student needs and then provide students with real-time feedback on their progress. Programs like School Of One are leading the way in developing packages that allow for a fully personalized, self-paced program.

Intermediaries are codifying their practices and designing effective processes for training, developing and coaching practitioners, making it possible for schools and districts to learn about the field and develop effective practices more efficiently.

The Re-Inventing Schools Coalition is the senior intermediary offering support to educators adopting competency-based approaches. While RISC does not focus exclusively on the development of competency education schools, it has developed extensive expertise in this domain after ten years in the field. Well known for its work in Colorado and Alaska, RISC also supports schools in California, Maine (MSAD15 began their work with RISC), New York and South Carolina. RISC provides schools and districts with access to extensive professional development, assessment tools, and a digital learning platform to support anywhere/anytime learning.

In addition to RISC, a new generation of intermediaries is poised to support schools in this work. Though Expeditionary Learning and Big Picture Learning have been intermediaries for years, they both used this project to begin the articulation and codification of competency education best practices. They hope to develop resources and collateral materials to use across their growing school networks and could make a significant mark on the field. Their colleague, Diploma Plus, was a pioneer in this effort.

The newcomer is Boston Day and Evening's Responsive Education Alternatives Lab (REAL). Launched in the summer of 2011, as the centerpiece of BDEA's work on this project, REAL will be the only intermediary exclusively organized

around supporting the development of competency education models and schools. BDEA has already codified much of their work, and the excitement that has met their entry into the field suggests that theirs is a much-needed initiative.

Finally, freely available collateral materials and resources are developing at an increasing rate.

For several years, NMEF has supported the work of the Boston-based Quality Performance Assessment Initiative (QPA). QPA trains practitioners in the complicated work of designing Common Core-aligned, valid performance assessments. Over the course of this project, they have supported both Vergennes Union High School and MSAD15 as they worked to build the assessment skills of their staff.

In addition, the recently-launched CompetencyWorks website engages practitioners in blogging about their experiences in the field. Competency Works already houses an extensive profile of Boston Day and Evening Academy, as well as blogs written by Barbara Weed of MSAD15, Tom Vander Ark, Chris Sturgis and Susan Patrick. In a similar vein, Competency-Based Pathways, which arose from the March 2011 Competency-Based Learning Summit, is collecting and sharing information on competency-based innovations at the classroom, school, district, and state levels.

Finally, some of the districts that are pioneering this work (such as Colorado's Adams50 and Maine's MSAD15) have developed public wikis that present their codification work to date. What is perhaps most powerful about these wikis is that they are a snapshot of a work-in-progress, rather than a finished product. The willingness of these districts to share their work, even as they fine-tune it, lets us all stand on their shoulders as we move competency education forward.

It can be hoped that the current rapid development of competency education will enable schools and districts to identify, adopt and modify promising practices without needing to invest as many years and dollars, not to mention labor, as those who pioneered these efforts. But as this project comes to a close, there are still many issues to explore, both within New England and across the country. These are a few of the questions that remain:

- Does competency education better motivate students?
- Do competency-based approaches work for all students? Can they narrow the achievement gap that currently exists between students of color and low-income students and their more advantaged peers?
- What is the ideal set of learning targets? Given how learning standards are currently being articulated (Common Core, Next Generation Science, etc.), are we closer to a higher-quality, more manageable set of targets?
- What is the optimum role of technology in competency education? How can we make new advances in technology affordable for those who need them?
- How do we ensure that training in competency education practices becomes the centerpiece of teacher preparation programs in states where competency education is the new system?
- How can policy makers support and invest in this work?

As more of these questions are answered and competency education moves forward, it has the potential to produce vibrant alternatives to the traditional educational approach of the past three hundred years, and in turn to transform our schools, our educations, and the lives of our young people.

Appendices

Index

The appendices that follow were created by the schools discussed in this report and are presented in their original form.

Appendix 1

Proficiency-Based Pathways Project Initial Project Descriptions

Big Picture

The goal of Big Picture's Proficiency-Based Pathways (PBP) Initiative project is define a common set of proficiencies and develop a "synthesis proficiency assessment system," including rubrics, procedures, etc., that is fully aligned to Big Picture's core learning strategies and enables teachers to assess proficiency across subject areas and for multidisciplinary projects and learning experiences in ways that are technically strong and logistically realistic. The PBP project will:

- Enable Big Picture to collect disparate experience and expertise from across the BP schools, and;
- Network, synthesize, and enhance this experience to create a common proficiency-based assessment system that BP intends to scale nationally over the next 3-4 years.

In order to accomplish project objectives, Big Picture will use a rapid prototyping and testing strategy over the next year, focused on two New England schools: Central Vermont Big Picture Academy (VT) and The Depot Campus at E.O. Smith High School (CT). An external evaluator will also work with Big Picture to ensure that assessment tools and procedures generated are of high technical quality.

Boston Day and Evening Academy (BDEA)

In the course of this grant, BDEA will deepen and codify the school's teaching and assessment practices, develop a learning institute, and produce materials to support implementation of proficiency-based pathways by other educators. Through a partnership with Jobs for the Future, they will:

- Align their competencies to the Common Core in math and Humanities;
- Fully document their proficiency-based pathways system, including tools, templates, and sample rubrics, benchmark assessments and assessment processes, lesson plans, and transcripts; and
- Develop and pilot a Learning Institute for a small number of "early adopters" to learn from and adapt BDEA's proficiency-based pathways.

BDEA has developed processes, materials, and a fully realized infrastructure for supporting proficiency-based pathways. The core elements of this infrastructure include: a set of competencies across all content areas aligned to the Massachusetts curriculum frameworks; a template for educators to create content-specific rubrics, along with sample rubrics; a strategy for developing scope and sequence in content areas that build to the competencies; a range of assessments that allow students to demonstrate what they know and can do; and a strategy for differentiating instruction so that all learners achieve the competencies.

Diploma Plus

The "Next Generation" project is intended to improve Diploma Plus' understanding of how competency-based models transacted online can improve student engagement and achievement and expand Diploma Plus' capacity to deliver "anywhere, anytime learning" by increasing the range of high quality blended learning modules available to DP schools via the network's learning management system (DPNet). Work in this will provide more flexibility to tailor learning to individual student's time, skills, circumstances and interests while maintaining rigor and engagement.

To support the project, Diploma Plus will purchase blended online course units developed by the Education Connection/Center for 21st Century Learning (Algebra21, Biology21, and Chemistry21 units issued under an Open Education Resource license). Units will be aligned to Common Core Standards and DP competencies and optimized for both web and mobile access. In addition, Diploma Plus will enhance the DP.net learning management system in a number of ways.

Four DP schools will serve as blended course pilot sites and learning partners for the project:

- Brockton Champion High, Brockton Public Schools (MA) -
- Lawrence High School Learning Center, Lawrence Public Schools (MA)
- Charlestown Diploma Plus Small Learning Community, Boston Public Schools (MA)
- E-Cubed Academy, Providence Public Schools (RI)

Expeditionary Learning / Casco Bay High School

The goal of the Expeditionary Learning/Casco Bay project is to create a roadmap for schools and districts to develop and implement a proficiency-based pathway to graduation, using Casco Bay and the district of Portland, ME as a model. With support from the district, Casco Bay will have the ability to eliminate the traditional, credit-based system and implement strategies that enable them to base high school graduation on the assessment of students' individual mastery of specific learning targets.

Over the term of the grant (April 2011 – May 2012), EL and Casco Bay will work together to:

- Lay the groundwork for a new proficiency-based pathway to graduation at Casco Bay, which they would begin to implement in fall 2012 with the incoming 9th-grade class;
- Document the process of creating the new system, and;
- Create tools that will support implementation of the new system, spread practices throughout the Portland school district and help other schools and districts create and implement similar systems.

Gray-New Gloucester (MSAD 15)

Gray-New Gloucester plans to expand PBP options in each of its schools so that students who are ready would move through higher level standards and not be stalled by traditional grade levels or building configurations. Gray-New Gloucester will use technology as an important element of its PBP plan; personalizing learning and expanding it to anytime/anyplace (Gray-New Gloucester has 1:1 technology for all students in grades 5-12).

Gray-New Gloucester will work across five domains: Curriculum, Assessment, Professional Development, Infrastructure and Technology. These domains are interrelated and will be worked on simultaneously in order to bring the whole system closer to the goal of PBP for all students, building on the Reinventing Schools Coalition (RISC) model currently being used.

The current population of middle school students will be moving to the high school in 2012-13. Gray-New Gloucester will use grant funds to form a partnership between the middle school and the 9th grade team during 2011-2012 so that teachers can work together and thoughtfully plan for the transition, attend professional development, integrate curriculum, rethink and revise current building structures to ramp up for September 2012 at the high school.

NCEE / CREC / MPTPA

NCEE is working in partnership with the Capitol Region Education Council (CREC), one of six Connecticut regional educational service centers, to pilot the University of Cambridge International Examination's (CIE) Board Examination System at the Medical Professions/Teachers Preparation Academy (MPTPA) in Windsor, CT. MPTPA will implement the CIE Board Examination System starting in the school in fall 2011, the first year of a four-year effort to prepare students to meet the Common Core State Standards.

The overall goal is to build out CREC schools' PBP programming so that it includes an internationally benchmarked instructional program that allows students to move on to college or stay in high school and complete an upper division program that will prepare them for a selective university. The expanded PBP model will include state-of-the-art summative assessments that show what students know and can do and are scored externally.

The CREC school in this pilot will be able to purchase an instructional system, train their faculty to deliver the curriculum, use new forms of assessment to first diagnose students' needs and then measure whether students have mastered the curriculum, provide after school and Saturday enrichment to support struggling students, and document and communicate the learning as the pilot proceeds through its first year.

Vergennes Union High School

Vergennes plans to become a PBP school by July 2016 and will use the next year to both create consensus around and understanding of the PBP initiative, while also developing key aspects of the pathway: valid performance tasks and exemplar student challenge projects. The heart of this project is planning and design. Vergennes will design their first multi-year, proficiency-based extended learning pathway for students to take differing amounts of time (longer or shorter) to successfully complete middle and high school. This will entail a transformation from a conventional credit system to the proficiency based system in which staff will develop and validate proficiency-based tasks and assessments anchored to common rubrics, eventually expanding into student-directed, self-designed tasks. Teachers will focus sharply on helping students understand where they stand and how they can move forward.

Appendix 2

Student Focus Group Protocol

Set up:

1. Focus Group Purpose: facilitator introduction, purpose of focus group
2. Use of Information: purpose of taking notes, how information will be used, confidentiality
3. Student Introductions: student first names, age/grade level, how long at school/program
4. What is PBP: orient students to our definition of PBP (make this a bit of a script – 1 sentence description)
5. Student PBP Experience: PBP classes/courses currently taking, level of experience with PBP program or classes (# of PBP classes and/or years in PBP program)

Discussion Topics:

1. How the PBP Class/Program Works
    - Describe a typical class or day.
    - How do you interact with your teacher?
    - How do you interact with other students?
    - Is there anyone else who helps you / works with you besides your teacher?
    - How do you/your teacher keep track of your progress in your classes/ program?
    - How do you use your time in school? How much time do you spend on school work at home or outside of school? How much time do you spend working individually on your own vs. working together with other students (as a small group, the whole class)? What kinds of group activities do you do? What do you think about this balance?

2. Overall Experience
    - What do you like? What works well and why?
    - Is there anything you don't like? What would you want to change or do differently?
    - Is there anything you find particularly challenging? How do you handle this? Is there anything else that would help?
    - How does this PBP experience compare with other non-PBP classes you've done or previous school experience?

3. Effectiveness
    - Do you like progressing through your class/program/school at your own pace? In your experience, what have the pros and cons of working at your own pace been?
    - Do you think you are going faster or slower in your PBP class compared to your pace in other classes? Do you feel you are going faster or slower than other students in this class Why?
    - Do you have a better idea of what you are expected to learn? Do you have a clear idea of where you stand – where you are – related to learning expectations?
    - Do you think PBP is good for all students or some students? If some students, which? Why?
    - What are a few things you would suggest to change or improve your school (about PBP experience and/or in general)?

Appendix

3 Student Demographics

School Site	Grantee	Setting	# Students	% Free Lunch	% Special Ed (IEP)	% LEP	% African American	% Asian	% Hispanic	% Native American	% White	% Native Hawaiian/ Pacific Islander	Multi-Race	Source
Boston Day & Evening Academy, Boston, MA	BDEA	urban	347	99	11.5	4.0	53	3.2	23.9	0.6	6.1	9.8	3.5	MA DESE
Rochester School, Rochester, VT*	Big Picture Learning	rural	176 (K-12)	25	9	0	1	1	1	0	95	0	3	VT DOE
E.O. Smith High School, Storrs-Mansfield, CT*	Big Picture Learning	suburban	1189	13	16	0.7	-	-	-	-	-	-	-	CT DOE
CREC Medical Professions and Teacher Preparation Academy, Windsor, CT	NCEE	urban/ suburban	109	44	8	0.6	-	-	-	-	-	-	-	CT DOE
E-Cubed Academy, Providence, RI	Diploma Plus	urban	358	78	17	10.6	31.3	2.2	54.5	0.8	8.9		2.2	RIDE
Champion High School, Brockton, MA	Diploma Plus	urban	183	65	14.8	1.1	49.2	0	18.6	1.6	29	0	1.6	MA DESE
Charlestown High School, Charlestown, MA	Diploma Plus	urban	952	79	23	32.6	36.6	20.7	37.1	0.1	5.1	0.1	0.4	MA DESE
MSAD15, Gray New/Gloucester ME	MSAD15	suburban/ rural	1907	22	13	0.7	1.1	0.8	0.7	0.5	96.8	-	-	IES/ NCES
Casco Bay High School, Portland, ME	Expeditionary Learning	urban	249	40	-	-	17.7	1.6	4.8	0.4	75.5	0	0	IES/ NCES
Vergennes UHSD School, Vergennes, VT	Vergennes	rural	574	32	15	0	1	1	0	0	97	0	1	VT DOE

*The Big Picture program operates as a pathway within these schools serving 20-40 students.

Appendix 4

Casco Bay: "Be Accountable" Policy Faculty Version

Be Accountable - Policy Overhaul

Preamble
Based upon clear and strong feedback from students, parents and staff, the Leadership Team has approved implementation of three interrelated policies:

1. Tracking and Assessing HOW
2. Unexcused Tardies and Absences
3. Late Work

We hope the cumulative effect of these changes will be a shift in our culture, a shift that promotes greater on-time work completion, greater student accountability, and more faculty wellness.

The Leadership Team will be tweaking these policies in the days and weeks to come, in part based on feedback today. But they have been approved in principle already by the Leadership Team and will be launched on the first day of school. (Amendments will be made as necessary to the November edition of the Handbook.) Derek will present an overview of these new policies on the first day of school for returning students, as part of a theme emphasizing resilience, personal bests and accountability. Of course, clear and consistent implementation of these new policies is as important as the changes themselves. We know these proposed changes will far from eliminate student issues related to work completion, tardiness, etc., but we think they represent an important step forward towards our vision for sustainable excellence.

Tracking and Assessing HOW

Purpose of Proposed Policy Change:
1. To give HOW more meaning – by giving the process of assessing HOW more substance, clarity and consistency.
2. To improve students' HOW through the above.

To Earn a HOW of 3, Do the Big 3.
You must consistently (about 80% of the time):
1. Complete homework,
2. Meet deadlines, and
3. Participate effectively in class activities (includes regular, on time attendance)

How do you earn a 4?
Do the Big 3 *all of the time.*

Common Instructional Practices
For the first trimester, all teachers design HOW targets focused solely on the big three. Teams and teachers may choose to move away from the Big 3—or not—after the first round of progress reports in October. The process for tracking the Big 3 may vary by teacher.
For all teachers this includes:
1. A posted, contextualized HOW target for a set time period;
2. An opportunity for students to reflect on their progress (or not) towards the target, at least every two weeks;

3. Descriptive feedback from the teacher to the student about their progress, at least every two weeks.

Unexcused Tardies and Absences

Purpose of Proposed Policy Change:

1. To replace the cycle of referrals and detentions with a policy that emphasizes communication with parents and tiered interventions.
2. To teach students about accountability and the importance of being in class.

Policy for Students:

- All students are expected to attend class and to be on time.
- If you are unexcused absent or tardy, any classwork, homework, or formative assessment work missed as a result of this absence or tardy will not be accepted and graded.
- Feedback and support around that work will only be available during block 7, and the unexcused class time will be reflected in HOW grades.
- If a student is unexcused (tardy or absent) for a summative assessment, then that work will not be accepted, and then the late work policy will kick in.
- We will adhere to the district policy that 10 unexcused absences from a course will put course credit at risk, only to be recovered by petitioning the principal.
- When communicating with non-English speaking families, every effort will be made to seek support from the Multilingual Office to facilitate the conversation.

Unexcused Tardy Protocol for Teachers

Students who are unexcused tardy are subject to the following tier of interventions:

Tier 1: A pattern of 3 unexcused tardies in a trimester has been noted by the teacher.
Intervention: Teacher calls home to inform parents/guardians of pattern of tardiness.

Tier 2: Next unexcused tardy (4 total). Teacher intervention from tier 1 has been unsuccessful.
Intervention: Crew advisor is informed by classroom teacher of pattern of tardiness and calls home to inform/review with parents/guardians.

Tier 3: Next unexcused tardy (5 or more total). Teacher intervention from tiers 1 and 2 have been unsuccessful.
Intervention: Teacher writes up discipline slip and gives to Scott. Also, crew advisor/teacher refers student to SST/Admin for intervention and disciplinary consequences.

Unexcused Absence Protocol for Teachers

Students who are unexcused absent are subject to the following tier of interventions:

Tier 1: An unexcused absence can be confirmed by teacher.
Intervention: Teacher calls home to inform parents/guardians of absence from their class. Student must meet with teacher prior to next class if possible. (If you know a kid has cut your class, call home).

Tier 2: Next unexcused absence from class (2 total). (A student cuts your class a second time). Teacher intervention from tier 1 has been unsuccessful.
Intervention: Crew advisor is informed by classroom teacher of pattern of unexcused absences and calls home to inform/review with parents/guardians.

Tier 3: Next unexcused absence from class (3 or more total). Teacher intervention from tiers 1 and 2 have been

unsuccessful.

Intervention: Teacher writes up discipline slip and gives to Scott. Also, crew advisor/teacher refers student to SST/Admin for intervention and disciplinary consequences.

Additionally....

Intervention Procedures with Students Who Are Chronically Absent (from SST)

1. The social worker will review the attendance list every two weeks and record any students with 3 or more unexcused absences.
2. The social worker will notify the crew advisor and bring the student's name to the next Student Support Team meeting.
3. If appropriate, the crew advisor will call home and meet with the student and/or parent to learn more.
4. If the crew advisor perceives that the issue is, or could soon become, chronic or if the student is on the social worker's absence list a second time, then...
    a) A member of the SST (closest to the student) is assigned to assist the advisor with the student.
    b) A meeting with the parent, student, SST team member and crew advisor is called.
    c) If the parent is unresponsive about the meeting, then the principal is notified and a truancy letter is issued and the meeting is held without the parent.
    d) The advisor and SST member use Ross Greene's collaborative problem-solving approach to identify the unsolved problem and any lagging skills, as well as a mutually agreed to plan for moving forward.
    e) A peer will be identified by the team (as appropriate) to further assist with attendance issues and the plan moving forward.
5. The SST Team Member and advisor will continue to monitor the student's attendance (and general progress) until there are 2 months of steady attendance and school citizenship.

Late Work

Purpose of Proposed Policy Change:

1. To have a clearly articulated late work policy for parents, students, and teachers.
2. To teach students about accountability and the relevance of deadlines.

Late Work Policy

1. Late work will not be accepted for daily formative assessments such as DYRT quizzes or journal entries (excused absences exempted). Students will receive a HOW grade of “1” in Infinite Campus.
2. If a student has missed a formative assessment, he/she can arrange to receive feedback from the teacher at a pre-arranged block 7. If the work is acceptable, the teacher can move the HOW grade from “1” to “2” (a grade of “3” is not possible).
3. Late work will not be accepted for summative assessments. However, a student can request to make up the summative assessment by turning in a “Request for Extension Form”.
    a) The Extension Request Form must be turned in by the assignment due date or earlier whenever possible. Students who fail to complete the Extension Request Form will only be able to make up that assessment in mud/summer school - if otherwise eligible.
    b) The student and teacher will conference in Block 7 to determine the new deadline and the body of work required to demonstrate readiness (which will likely include many of the daily, formative assessments that might have been missed earlier).
    c) After the new due date and required work is added to the Request Form, the student will then have the form signed by a parent or guardian.
    d) The student must then hand in work on the date specified in the Request Form.
    e) Students will be allowed 1 extension per course per trimester, subject to teacher approval.

4. This form may only be used ONCE per class each trimester and NEVER for an expedition culmination (for example: the naturalization ceremony, the "In the Black" symposium, Final Word)
5. Students who fail to meet the extension deadline or who miss more than one summative assessment per trimester must attend mud/summer school to make up the standard associated with the missed assessment, if eligible.

***** IEPs, 504s, RTIs, ELL plans, etc., trump above where applicable. In these cases, students and teachers should negotiate an appropriate deadline in advance. If student misses negotiated deadline, late work policy kicks in.

NOTES

Changes to Late Work policy:

1. 3(a) added "Students who fail to complete the Extension Request Form will only be able to make up that assessment in mud/summer school - if otherwise eligible."
2. 3(e) added "subject to teacher approval"
3. 4 added "if eligible"
4. added at end "IEPs, 504s, RTIs, ELL plans, etc., trump above where applicable."

Small group notes (world language):

1. HOW: Do the big three carry more weight?
2. Making Block 7 the time to work on Late Work plans and to work on missed work will help teachers
3. Tracking and remembering which students need calls home could be challenging
4. Teachers with irregular schedules (not here for Block 7, for example) can set theirs in a way that works best for them
5. Question of when a request cannot be made (Culminations or Fixed Deadlines) is very fuzzy. When environment can't be recreated? Can standards be met after a culmination? Leadership Team needs to take up culminations as a separate issue.
6. Parents getting four calls from four separate teachers isn't a good thing. It appears as if we aren't talking to each other here. What about ELL kids? Parents won't understand messages and panic.

Notes from Susan's group concerning Late Work:

The biggest question raised here was around culmination. Can a student complete a request for an extension for a culmination? Some on my team believe they should not be able to -and we didn't finish that part of the discussion.

And, should we include the language of "initial deadline" and "final deadline" here, even though it might not apply to all disciplines?

One Recommended Process For How to Track and Assess Your How Target:

2. Each teacher or team chooses one HOW target to focus on for a minimum of 2 weeks.
3. Each teacher posts a contextualized HOW target daily—along with academic targets—and makes clear to students which desired behaviors (1 to 3) are related to the target.
4. Within 2 weeks, there is a student self-assessment and teacher descriptive feedback about the student's performance related to the target. (See Sample Tracking Form from Nancy.)
5. The corresponding grade is entered into Infinite Campus.
6. The process repeats itself, perhaps for the same target, depending on the course and team needs. These data points are then figured into the overall HOW grade—as well as whatever else the teacher has documented on the Big 3 (complete homework, meet deadlines and participate effectively).

Extension Request Form

Answer the questions below. Use the back as necessary. Barring absences, this form should be turned in (with all relevant signatures) by the stated deadline for the summative assessment – and earlier whenever possible. Late work on a Summative Assessment will not be accepted without this form completed. This form may only be used ONCE per class each trimester and NEVER for an expedition culmination (for example: the naturalization ceremony, the "In the Black" symposium, Final Word)

Name _____ Crew Leader _____

Course and Teacher _____ Date_____

Summative Assignment: _____

1) Learning Targets and/or course standards this assignment was designed to assess:

2) Why are you requesting this extension?

3) What support do you need to meet your new, proposed deadline?

4) What is your plan to complete assignments/study to prepare you to meet the summative assessment?

5) When will the assignment be completed? _____

Course Teacher Review of Request

_____ Approve _____ Deny_____

Student _____ Parent _____

Crew Advisor: _____

Appendix 5

MSAD15: Capacity Matrix Student Tool

MSAD15 Capacity Matrix (tool students use to their monitor progress)

To learn more, watch the "Capacity Matrix Explained" video at http://www.schooltube.com/video/dfef96184972466eb14e/Capacity-Matrix-Explained

Name:	**Date Started:**		**Date Completed:**			
Learning Target: PUT YOUR STANDARD # HERE						
Understand and	**Emerging**	**Partially Proficient (Retrieve)**	**Proficient (Comprehend)**	**Proficient with Distinction (Analyze)**	**What is my evidence?**	TS
	I can show the parts I've learned with help.	I learned some skills/ information.	I learned and *can demonstrate* the skills/ information.	I can apply the skills/ information in a new context.		
Vocabulary						

Appendix 6

Vergennes Union High School: Sample PBGR Task and Student Learning Contract

PBGR Task UBD Submission Form **Vergennes Union High School**

Title of Unit	Humanities Round Table Paper and Presentation	**Grade Level**	11th and 12th grade
Curriculum Area(s)	Social Studies and English	**Time Frame**	One Semester
Developed By	Rebecca Coffey and Michael Thomas		

PBGR(s) Addressed: PBGR 7 (Writing) and PBGR 8 (Oral Communication) for all students. Some students can choose to apply this to PBGR 1 (Wellness), PBGR 2 (Community), or PBGR 3 (Inquiry) depending upon the topic of their project.

Vermont Grade Expectations and Fields of Knowledge (One sentence explanation)

Social Studies

6.1 Causes and Effects in Human Societies: Students examine complex webs of causes and effects in relation to events in order to generalize about the workings of human societies, and they apply their findings to problems.

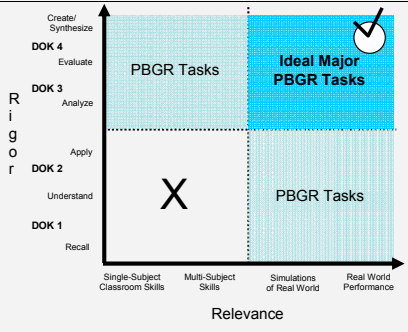
6.5 Traditional and Social Histories: Students investigate both the traditional and the social histories of the people, places, and cultures under study, including those of indigenous peoples.

English

Students demonstrate command of written standard English (WHS: 2-4), use a sustained writing process including multiple draft/revision cycles (WHS: 1) to "define a significant problem, issue, topic, or concern" (WHS: 15), and then "present and coherently support judgments or solutions" (WHS: 16).

Identify Desired Results (Stage 1)

Understandings	Overarching/Essential Question(s)
Overarching Understanding	**Overarching/ Essential Question(s)**
Students will understand: • A good paper or essay topic is one that is personal to them and influences society • That an interesting paper is one that incorporates their own thoughts and opinions with research done by experts • That some resources are better than others and how to discriminate between good and bad resources • That writing and research is a multistep process that needs to be done slowly and consistently over time • That intellectual discussion continues outside of high school and the adult community shares their interest and concerns	• What is the relationship between my topic, myself, and my society? • Why is the topic I chose important to me and others? • How do I locate reliable resources on my topic? • How do I incorporate my ideas and with research done by experts? • How do I structure my time over the semester to support my success on this task?
Knowledge Students will know…	**Skills** Students will be able to…
• The historical context and societal significance of their topic • How to write a cohesive thesis statement that unites their entire research essay • How to correctly cite their sources in the body of their paper by following proper MLA documentation • How to locate reliable resources that support their thesis statement • The importance of understanding the other side of their argument	• Identify social/cultural issues of personal concern • Effectively organize their thoughts about such issues • Research the intellectual and historical context of a personal issue • Take into account perspectives different from their own • Communicate their concerns and research findings in writing and speech to a relevant audience • Cite research sources appropriately

How will you organize and sequence the learning activities to optimize the engagement and achievement of ALL students?	The project is built around a detailed learning contract, with clearly marked intermediate steps and student selected due dates. Accommodations first occur during selection of topic early in the semester These can be adjusted as necessary to meet academic and/or social needs of the student. Additional accommodation will occur during the writing process, with level of teacher support adjusted to meet needs. All students will 1) complete several free-writes to brainstorm their topics, 2) complete a preliminary outline, 3) complete at least three rounds of revision, including peer review and 4) participate in teacher conferences. Scaffolding occurs primarily through conferencing. Each step of the process, such as outlining, constructing arguments, researching sources, citing sources, is taught in mini lessons throughout the course.
	**Other Evidence: (Examples- vocabulary, reading selections, exit cards, writing, student self assessment, rubrics, checklists, time line.)** **Venue (check all that apply):** **___X____ in school** **_____ out of school** **_____ departmental** **___X____ other (cross-curricular, advisory):** Community members serve as responders to essays and participate in final presentation of research. **Evidence Attached:** Student Instructions/Learning Contract; Teacher Instructions; Teacher Scored Writing Rubric; Community Responder Rubric; Self-Assessment Rubric.

Teacher Reflective Essay:

- **What enduring learning does the student gain from this assessment?**

What we truly enjoy about this assignment is that it is totally student driven. Students are allowed to explore a topic that they are passionate about and examine how the topic relates directly to their life and the society they live in. Because this essay is 10 pages in length it requires he student to sustain focus on the topic for several months. Most students have never done this depth of research before. We then ask the students, once the research and writing is complete, to present their topic to their peers and several community members. The community connection is vital to the success of this paper. Students take this assignment seriously because they know a neighbor or a potential employer could be sitting across from them at the round table presentation. Because of this realization the students take ownership and pride in their work. They concentrate on details, such as finding the right source to back up their claim or the exact right words to describe their thoughts. Students learn persistence, patience, and focus while participating in this assignment as well as the fundamental skills of writing and research.

- **How could this PBGR task be interdisciplinary?**

This task is interdisciplinary because it is an interdisciplinary course. Students have chosen topics built around issues spanning all disciplines. The task would work well for any subject area where big issues are explored. In a science related course the student could be looking at an environmental issue that needs to be researched, addressed, and corrected and then present the detailed research to a panel of community members involved in dealing with the issue.

- **Is this task summative evidence for meeting a PBGR?**

Yes it is. It is a polished real world experience done at the end of a student's high school career.

Student Instructions/Learning Contract

Personal Contract and Guidelines for Round Table Paper

You will write an eight-to-ten page personal research paper. You should choose a topic that is relevant to you and you are passionate about. While researching and writing this paper you will address the connections between *self*, *subject*, and *society*. After writing the paper you will then participate in a round table presentation and discussion. At the round table you will present your findings to a small group of your peers and two community members.

This paper and presentation is 20 percent of your overall grade. To progress to the round table discussions you need to *Meet* or *Exceed the Standard* on the written paper. If you don't *Meet the Standard* on this paper you will not be able to participate in the round table discussions. You will receive a zero for the round table presentation portion of your grade, which cannot be made up. You will then have a meeting with two adults to assess what went wrong with this process and what you need to do to complete the paper. Once the paper is completed and assessed it will be dropped 10 points for being late.

Over the years we have found that students are most successful with this project when they find a sincere passion for the subject and recognize their own responsibility for their learning. We will offer the help you need along the way, but the ultimate responsibility for this project is your own. We would like <u>you</u> to assign the due dates for each part of this process. We have set an ultimate due date for each piece, but we feel it is more meaningful for you to think about how you work and what you may need more or less time on. If you fail to meet the due date, you will fill out a form that states why you didn't meet the deadline and what you need to do to complete the assignment. This form will be sent home to be signed by a parent or guardian.

We look forward to working with each of you on this paper and presentation. Previous students have told us that this was one of the most meaningful assignments they participated in during their academic career here at VUHS. You will learn a lot about your topic, but you will also learn a lot about yourself and the society you live in.

For homework, please fill in this contract and attach a one-page informal reflection on your concerns, strengths, weaknesses, and extra support needed for this project.

Name:

Topic/Personal questions and Interests DUE DATE_____
<u>(No later than Wednesday, September 21st)</u>

- Needs to be in question format--How or why questions seem to work best for this assignment
- Find 1-3 sources (central text to respond to, academic)

Informal Reflections DUE DATE_____
<u>(No later than Friday, October 7th)</u>
Each of these are individual writing assignments. Mr. Thomas and Mrs. Coffey will read each of these pieces and provide feedback.

1. Personal reflection on topic--why is it to relevant to you? (2 pages, handwritten)
2. Societal reflection on topic--why is it relevant to society? (2 pages, handwritten)

Student Instructions/Learning Contract

One Conference with teacher before Wednesday, October 26th
CONFERENCE DATE AND TIME_____

Thesis statement & Outline/Section Headings DUE DATE_____
(No later than Wednesday, October 26th)
2 outlines--sections, then details
w/section outline include resources found or needed for each.

1st draft DUE DATE _____
(No later than Wednesday, November 9th)
- Section headings
- 4-5 pages (scattered, but including intro and
- conclusion)
- Citations
- Works cited

Rubric feedback to you by November 16th

2nd draft DUE DATE_____
(No later than Wednesday, December 7th)
- All of the elements from the first draft
- 8-10 pages
- Working title
- Corrections made based on the feedback given by teacher

Rubric feedback to you by December 14th

Conference with Teacher CONFERENCE DATE_____
(No later than Wednesday, December 21)

3rd draft DUE DATE_____
(No later than Thursday, January 5th)
- Minor errors, really just polishing left

We will hand back your draft on Monday, January 9th.
Needs to Meet Standard

Final Draft DUE DATE_____
(No later than Wednesday, January 11th
- Ready to send to round table community participants
- Two copies--one hard copy, one digital copy

Student Signature_____

Parent/Guardian Signature_____
Best way to contact you? email _____ or phone_____

Appendix 7

Sample Casco Bay/ Expeditionary Learning Tools

Graduation Outcomes Draft

CBHS Graduation Outcomes: Draft 1/17/12

What are the cross-disciplinary skills, knowledge and dispositions that Casco Bay most values and which are most crucial to our students' success after CBHS?

In addition to meeting the course standards required for graduation...

A CBHS graduate will demonstrate substantial achievement and/or growth* in his/her ability to:

Solve Problems

1. Work Independently and Collaboratively
- Demonstrate effective teamwork in completing short and long-term group projects.
- Demonstrate the ability to plan, manage and execute short and long-term solo projects.

Possible Evidence and Measures: A HOW grade of 3 on several long-term projects requiring effective collaboration or independent work; self or peer reflections on these projects (all disciplines).

2. Make Meaning from Resources
- Analyze, infer, synthesize and draw conclusions from a variety of texts, sources and experiences
- Construct well-reasoned arguments and coherent responses based on compelling evidence from resources.

Possible Evidence and Measures: A score of 3 or higher on rubrics for data analysis and Making Meaning with a variety of texts and data (all disciplines). A demonstration of a college ready reading level through a reliable measure (eg: SAT's, PSAT's, Accuplacer); literary analysis papers

3. Investigate Deeply
- Investigate the world deeply (with heart and head), through disciplinary and interdisciplinary study, asking thoughtful questions and seeking out their answers.
- Identify, evaluate and weigh relevant evidence from a variety of sources and media.

Possible Evidence and Measures: science and math labs; a score of 3 or higher on the research process (all disciplines).

4. Think Inventively
- Use original, creative thinking to solve problems in various disciplines and contexts.
- Use flexible thinking – adapting one's own perspective – to solve problems in various disciplines and contexts.

Possible Evidence and Measures: Written or oral reflection about expedition products (eg: Work is Play), intensive products, science labs, PATHS products, artistic creations, out-of-school products, etc. (all disciplines)

5. Create Excellence and Beauty
- Use the feedback and revision process to create original, well-crafted, high quality products or performances.
- Cultivate your particular passions and areas of expertise.

Possible Evidence and Measures: 3.75 or 4 work from a culmination of an Expedition or Intensive (from any discipline); could also be PATHS or work outside of school.

Pursue Personal Best

1. Work Ethically*
   - Demonstrate honesty and integrity in every day interactions with students, faculty and
   - Be a good role model.

Possible Evidence and Measures: HOW grades and reflections, teacher college recommendations, peer assessments, reflections on challenging moral dilemmas/decisions (all disciplines).

2. Be accountable*
   - Follow through on your responsibilities.
   - Reflect on your progress, set plans for improvement and act on them.

Possible Evidence and Measures: Examples of significant responsibilities followed through on – in academic work and outside of school. Examples of significant plans for improvement acted upon, in academic work and personal work (all discplines)

3. Persevere*
   - Be resilient when things are hard, academically and interpersonally.
   - Overcome academic and/or personal challenges to achieve unprecedented success.

Possible Evidence and Measures: HOW grades and reflections, examples of work substantially revised and improved, reflections on challenges faced and overcome, teachers and peer assessments (all disciplines).

4. Be Well*
   - Make decisions that promote personal wellness.
   - Cultivate healthy habits in body, spirit and mind.

Possible Evidence and Measures: Wellness Plan (reviewed at each conference grade 10-12); crew, parent, peer and self-assessment on aspects of spiritual, physical and mental wellness.

5. Seek Self Understanding*
   - Learn from your challenges and overcome your fears.
   - Discover your strengths. Pursue your passions.
   - Be willing to learn new things

Possible Evidence and Measures: Bi-Annual Student-Led Conferences, the Freshmen Finale, the Sophomore Passage and the Final Word. Examples of taking action outside your comfort zone (eg: trying a college course, auditioning for a play, interviewing for a job, etc.)

Better the World

1. Be Community*
   - Exhibit an understanding and respect for diverse cultures and perspectives.
   - Make meaningful connections with people from backgrounds different than your own.
   - Serve others.
   - Be compassionate.

Possible Evidence and Measures: reflections on projects and experiences such as When Worlds Collide expedition, products from French or Spanish projects or expeditions, Junior Journey, Casco Bay Quest, Intensives and/or out of school experiences; HOW SOW or other awards

2. Communicate Effectively
   - Write proficiently in a variety of forms and for a variety of purposes.
   - Speak capably in a variety of contexts and for a variety of purposes.
   - Listen well and respectfully.
   - Select and use appropriate technology, media and visuals to enhance communicate with diverse audiences.

Possible Evidence and Measures: A score of 3 or higher on the universal presentation rubric (eg: for Sophomore Passage Portfolio, the Public Policy Presentation and the Final Word). A writing portfolio which includes substantial pieces completed for a variety of audiences and purposes with a writing rubric score of 3 or higher; examples of technology and visuals effectively used to enhance communication in expedition or course products (or as independent acts of communication); HOW reflections or teacher, self and/or peer assessments of listening (eg: from French, Spanish or ELL classes).

3. Take Action
- Become informed about issues of social and environmental justice.
- Develop the courage and resolve to take meaningful action.
- Follow through and persist with appropriate actions to improve conditions.

Possible Evidence and Measures; Research binders and products and/or performances from expeditions, such as Sustain ME, When Worlds Collide, In the Black and the Senior Expedition. Evidence and reflections from experiences such as Junior Journey, Casco Bay Quest, intensives, internships, co-curriculars, jobs, etc.

**For all graduation competencies that are not starred, a CBHS graduate would have to demonstrate graduation level achievement as well as reflecting on growth. For starred competencies, if a student demonstrated graduation level achievement, this would be indicated on their transcript. A student who achieved graduation level achievement in all of these competencies might receive something like a "Personal Best" diploma to accompany the traditional one... All students would be assessed on their growth in personal best (and other starred) competencies. (Very drafty idea)*

***

Language and ideas for this list were drawn from numerous sources of exemplary graduation outcomes from districts and guru – as well as our own founding documents and the Pathways to Success.

Revision Checklist for Quality Assessment Plans

EXPEDITIONARY LEARNING

Revision Checklist for Quality Assessment Plans

Standards and Learning Targets:

- ____ Do the standards and targets align with one another?
- ____ Do the learning targets meet the criteria for quality (standards-based, one clear verb, identify the intended *learning*, divided into long-term and supporting targets appropriately)?
- ____ Are targets written in student-friendly language with an "I can" stem?
- ____ Are there a variety of kinds of targets (reasoning, knowledge and skill)?
- ____ Do knowledge and skill targets prepare students for reasoning targets?
- ____ Are content, literacy, numeracy, and character all accounted for, with purposeful decisions about including or excluding character and craftsmanship targets?

Summative Assessments/Assessments of Learning:

- ____ Are there multiple opportunities for students to demonstrate mastery of each long-term learning target?
- ____ Is there clarity around the assessment tool to be used for assessments of learning (for example: rubric, criteria, checklist, test)
- ____ Do the targets and assessment of learning methods align with one another? i.e. Have you selected appropriate methods to allow you to make a decision about student mastery of the learning target?
- ____ Are assessments of learning varied in format and type?
- ____ Are the assessment experiences designed to motivate and engage students?
- ____ Have you included smaller assessments of learning that can be used with students in formative ways?

Formative Assessment/Assessments for Learning:

- ____ Do assessments for learning dominate the assessment plan (more assessments *for* learning than *of* learning), with assessment for learning opportunities for each supporting target?
- ____ Do your assessment for learning practices prepare students in form and content for culminating assessment(s) of learning?
- ____ Have you attended to a variety of learning styles in the range of assessment for learning opportunities you have provided for students?
- ____ Are assessment for learning experiences crafted to maximize student motivation?
- ____ Do assessments for learning provide students with a clear vision of the learning targets and ensure regular opportunities for descriptive feedback?
- ____ Do assessment for learning strategies involve students through self-assessment, peer revision, and reflection at regular intervals?

Student Assessment Progress Tracker Template

Student Self Assessment Tracker: Evidence of Progress **Name/Crew:**

Class:

Long Term Learning Target:

Supporting Learning Targets	Evidence/ Next Steps	Evidence/ Next Steps	Evidence/ Next Steps	Evidence/ Next Steps	Evidence/ Next Steps	Evidence/ Next Steps	Summative Assessment/ Mastery of Content
	Date:	**Date:**	**Date:**	**Date:**	**Date:**	**Date:**	
	Date:	**Date:**	**Date:**	**Date:**	**Date:**	**Date:**	
	Date:	**Date:**	**Date:**	**Date:**	**Date:**	**Date:**	

Long Term Learning Target Summative Assessment(s)

Learning Target Process Reflection

1. Looking back at the long term and supporting learning targets, why were you successful at achieving the learning targets? Why not?

2. What are some strategies that you used to achieve the supporting learning targets that can be applied to a new learning target?

Teacher Feedback

Casco Bay Assessment Coach Description

Casco Bay Assessment Coach and Team Roles and Responsibilities

- Receive (and seek) training in high quality assessment practices.
- Establish a repertoire of high quality EL assessment practices, focusing on literacy and numeracy.
- Lead efforts to gather and document high quality assessment practices, including updating CBHS faculty and family grading guides.
- Establish a calendar of major assessments – both standardized and performance-based – as well as a calendar for faculty and team review of resulting data.
- Oversee learning area efforts to develop common rubrics and benchmark assessments (both standardized and teacher-developed).
- Plan and lead assessment staff development for the year, in conjunction with the School Designer.
- Be a role model in striving to implement high quality assessment practices in your own classroom, including sharing successes and challenges with colleagues.
- Communicate with Nellie Mae and evaluator as necessary. Members may attend periodic Nellie Mae grantee events and meetings
- Develop plan to share work with PHS, DHS and the district assessment team.

Logistics

- $1500 stipend for year
- Two days of summer work (lunch provided) - July 13th and August 8th
- Two assessment retreats (during school days), one in late fall and one in early spring
- Monthly meetings (90 minutes?), time TBD by the group, once formed.

Process to Become an Assessment Coach

- Express Interest by May 27th 2pm in writing, to the principal
- Priority given to at least one person with extensive training in literacy and one in math
- Priority to establishing a team with members from different learning areas and/or teams
- There may be some membership overlap with the Leadership Team, but primarily there will be distinct memberships.
- If there is more interest than spaces, then the principal will decide, in consultation with the school designer.

Learning Expedition Criteria and Characteristics

EXPEDITIONARY LEARNING

Criteria for Quality Learning Expeditions

Learning expeditions are the signature EL curricular structure that makes content standards come alive for students. These long-term, in-depth studies offer real-world connections which inspire students toward new levels of academic rigor. They take multiple, powerful elements of the EL approach and join them together: a kick-off experience, guiding questions, case studies, projects and products, fieldwork, experts, service learning, and a culminating event that features high-quality student work. All of these structures can also be used independently in the EL approach, outside of a full learning expedition.

This document can be used for many purposes and at multiple points during planning, implementation, and reflection related to learning expeditions. For example, teachers may choose to use it during the planning phase to identify particular aspects of quality they wish to attend to; alternatively, teachers may use it to serve as a reflection tool during or after an expedition. It may be used for self-assessment or peer assessment, ideally when there is opportunity to apply what is learned from the process of reflection and feedback either to refine current implementation or to improve on subsequent iterations of the expedition when it is taught again. Please note that some criteria apply to the planning phase, while others pertain specifically to how the expedition is implemented. Determine which criteria are appropriate and useful based on your purposes.

If teachers wish to include quantitative assessment, we suggest that schools use the following scale:

4 – Criterion is in place and is an example of quality
3 – Criterion is in place
2 – Criterion is inconsistent in implementation and/or quality
1 – Criterion is in a beginning phase
0 – Criterion is not yet included
N/A – Criterion is intentionally not included

Name: _____ Expedition: _____ Date: _____

Criteria	Qualitative assessment: comments, feedback, questions	Quantitative assessment
Choosing and Focusing the Topic		
Meeting Standards 1. The expedition is based on required content and skill standards; teachers have prioritized standards that will receive particular emphasis.		
2. The expedition integrates skills of reading, writing, listening, speaking, and research, as well as critical thinking, problem-solving, and collaboration. Numeracy and other math skills are integrated as often as genuine connections exist.		
3. The expedition integrates the arts and technology. When possible, it is planned in conjunction with arts and technology teachers.		
Promoting Critical Thinking and Student Leadership 1. The topic of the expedition offers opportunities to connect historic, scientific, and other disciplinary concepts to specific case studies that make learning concrete and relevant. In primary grades especially, the topic is observable and allows students to learn experientially.		
2. The topic requires students to consider multiple perspectives.		

3. If possible, the topic involves questions of equity and fairness, social justice, or environmental responsibility to engage students in compelling conversation about right and wrong.		
4. If possible, the expedition impels students to realize they can have a positive impact in the world around them.		

Expedition Components		
Guiding Questions 1. The guiding questions drive student inquiry and connect all elements of students' studies.		
2. The guiding questions are student-friendly; they are straightforward and memorable, yet thought-provoking.		
3. The guiding questions focus on the big ideas/broader concepts of the expedition. They help to generalize the specific topics of case studies, connecting them to core concepts of the discipline(s).		
4. The expedition includes a limited number of guiding questions to ensure that each question can be deeply considered throughout the expedition.		

Case Studies 1. The case studies focus on a unique person, place or thing (e.g. the closing of a local factory), or they narrow a broad topic by focusing deeply on a particular sub-topic or perspective (e.g. the topic of birds narrowed to a case study of owls or to raptors of Oakland).		
2. The case studies require students to engage in original research with primary source materials, just as professional historians, mathematicians, scientists, and writers would.		
3. The case studies allow students to delve deeply into a specific, narrow topic and become experts.		
4. The case studies help students make bridges between their academic learning and the real world, and help to build bridges between the school and local community.		
Projects and Products 1. Projects serve as a central framework for teaching core skills and content. They link together multiple experiences (e.g. classroom lessons, discussions, labs, work sessions, research fieldwork and outside experts) and last 2-6 weeks each.		
2. Projects are worth the time and effort required; they address the most important skills and content that students need to focus on.		
3. Projects engage and motivate students, inspiring them to do their best work.		
4. Projects culminate in a high-quality student product or performance, ideally created for an audience beyond the classroom, giving students a real reason to learn the content and care about quality.		

5. Formats for products and performances address skills that students need to practice and are modeled on real-world formats rather than artificial scholastic formats (i.e. a *book review* for a local newspaper instead of a *book report* for the teacher).		
6. Students create products in a common format so that they can learn the same skills, work with the same experts, and critique each other's work. The format *also* allows for individual creativity and choice.		
7. With group products, the work of each student is able to be assessed independently, both to hold all students accountable and to allow them to take personal pride.		
Connections to the Community and Larger World: Fieldwork, Experts, and Service Learning		
1. Fieldwork has a clear purpose that furthers the work of a case study or project (e.g., students collect data, conduct interviews, or do structured observations) and allows students to be researchers, not spectators.		
2. Fieldwork is modeled, as much as possible, on the authentic research of professionals in the field (e.g. zoologists, historians, anthropologists).		
3. Experts work collaboratively with students; they support students in learning content, and they use professional standards to critique student work/support students in critiquing their own and one another's work.		
4. Service learning is at the heart of core academic work – it teaches students that the skills they are learning can be put to use to make a better community.		

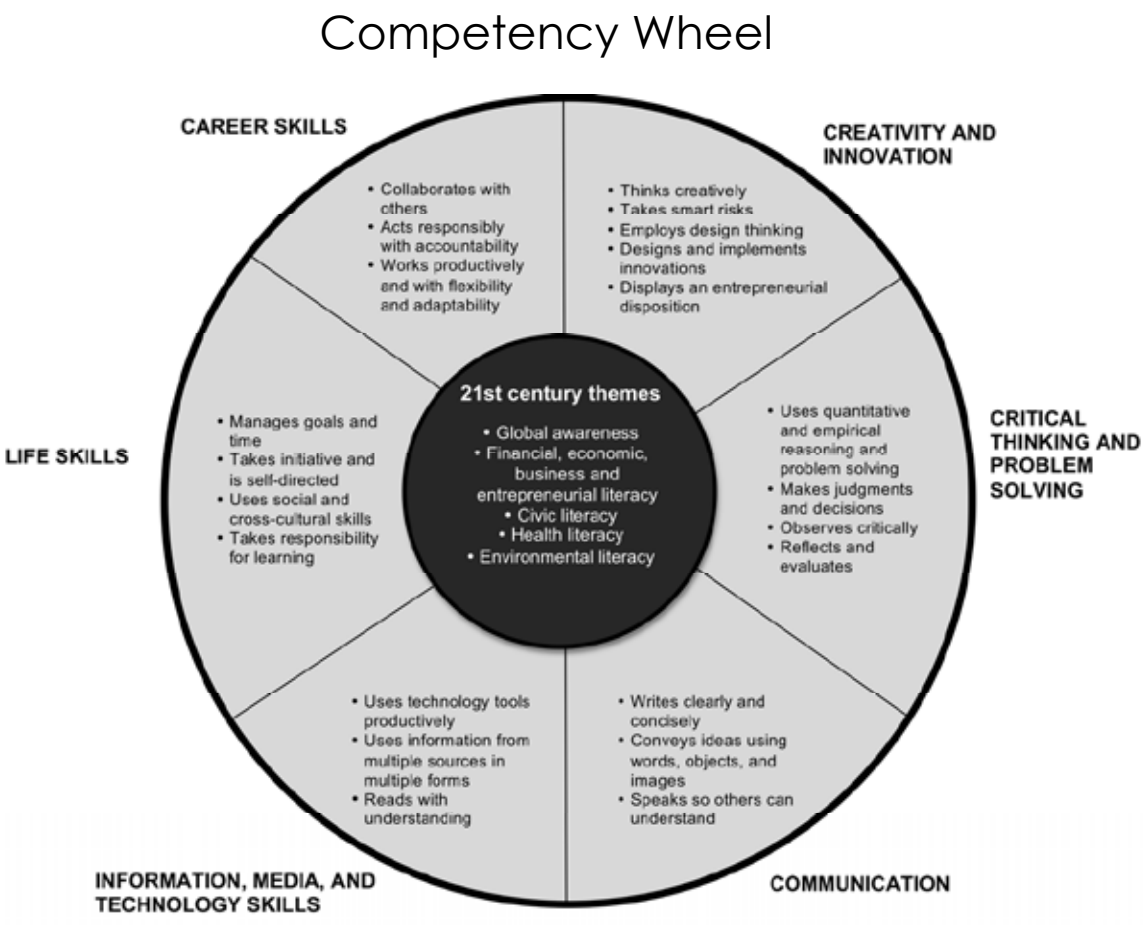
Producing High-Quality Student Work		
1. Academic work is rigorous and demanding for all students.		
2. Students analyze exemplary models – created by other students or by professionals - to develop criteria for quality work and identify strategies for meeting learning targets.		
3. Students use rubrics, criteria lists, and critique protocols to analyze strengths of their own work and identify next steps for improvement.		
4. Students reflect on their work throughout the expedition to examine improvement over successive drafts, make sense of experiential learning, think about their own learning, analyze their interactions and collaborations, and set goals for improvement.		
5. Final draft student work requires students to demonstrate perseverance and responsibility for learning as they work through multiple drafts to "get it right". Students demonstrate ownership and pride through attending to detail, making their final draft work accurate, thorough, and aesthetically strong.		

The Flow of the Expedition		
1. The expedition begins with a kick-off experience for students that ignites curiosity and sparks interest in the topic. The kickoff builds background knowledge for students in the expedition content, but is focused more on raising questions than answering them.		
2. After the kickoff, the expedition shifts towards deepening students' understanding, allowing them to "uncover" content and become experts in the topic.		
3. A public calendar is built for the expedition, with the input of students when possible. It is backward planned from final products and culminating events to ensure adequate time for completion of high-quality work.		
4. Teachers engage students in continuous assessment to track their progress and to make decisions about differentiating content and process to ensure success for each child.		
5. The expedition draws to a close with synthesis and reflection, product creation, and a culminating event that celebrates student learning.		
6. The culminating event shares and celebrates student learning with an authentic audience.		

Appendix 8

Big Picture: Learning Tools

BPL Competency Wheel



Big Picture Learning – October 2011 Gallery Walk

BPL Student Project Proposal

LTI or Independent Project Proposal Form

Student_____ **Date**_____

INTRODUCTION: What is your project? Why are you interested in this topic? Describe your project. What do you hope to learn working on and completing this project?
AUTHENTICITY: How is your project real? Who will benefit from this work? Describe the products you will be creating?
ACADEMIC RIGOR: How is your project challenging? What is your hypotheses around this project work? What are your investigative questions? How will you incorporate technology into your project?
ACTIVE LEARNING: How is your project hands-on? How will you document your learning? What goals will you need to accomplish to complete your project?
ADULT RELATIONSHIPS: Who will be your mentor(s) for this project? How often will you meet? What credentials do your mentor(s) have and what credential(s) are you planning to investigate?
ASSESSMENT: How will you present your work? How will your work be evaluated?

Who will provide feedback about your project?
TIMELINE:

BPL Creativity & Innovation Competency Rubric—Student Sample

CO	IMT	LS	CS	CT	CI

Name: Ethan
Advisor: Brian
Date: 2011

D: Competency: Creativity & Innovation

Learning Plan

Project Description	What Evidence & Documentation do you have	How does this work address the creativity & innovation competency?
Research, design, and build a pair of skis.	Research Paper, documentation of the process of building skis, the skis themselves, the molds used for the skis, documentation of mentor feedback and reflection.	Each pair of HG Skis is produced one at a time so they are by the nature of their design very unique. My skis are one of kind. I worked through four separate design challenges, with feedback and scrutiny from my mentor. In each of these situations I had to learn from the failures and flaws that were created to ultimately produce a high quality pair of skis. Learning from my flawed designs and productions methods and maintaining a high level of flexibility and adaptability allowed me to achieve my goal of building my own skis.

Benchmark
A benchmark is a piece of work that you can use as an example. This might be a published article, or other documented example of something similar to what you want to do or make.

Benchmark source	How does this benchmark address the creativity & innovation competency
The manufacturing process, workflows, and final products (skis and molds) of a commercial ski company.	HG Skis is a small boutique ski manufacturing company based in Burlington, VT. They have honed manufacturing processes over a couple of seasons of ski manufacturing. They apply the process of analyzing, assessing, and concluding in designing the line of skis that they produce. They produce a small number of skis and collect feedback from the owners and riders of the skis. This was accomplished by tests and analysis of the use of the skis, based on durability, ski-feel and responsiveness, best use for the ski (type of terrain or skiing style). This data then leads to new designs, new prototypes, and new opportunities for feedback.

Evidence/Documentation

	Emerging	Competent
Unique Ideas	Student needs help from others in linking seemingly unrelated ideas. Student can create products with assistance.	The student frequently sees links between seemingly unrelated ideas. He/she is able to independently produce results that are fresh, unique, original and well developed.
Risk-taking	The student conceptually understands that mistakes are learning opportunities, but may view them as failures.	The student sees mistakes as learning opportunities. He/she at times advocates unconventional or unpopular positions and is willing to tackle challenging problems without obvious solutions.
Flexibility	Student can be guided to reconsider positions.	The student is able to see multiple ways of reacting to changes in conditions. He/she can independently monitor and adjust his/her own positions in response to change.
Design Thinking	Student understands basics of entrepreneurship and can be guided in design activities	Actively uses concepts of design and entrepreneurship

Appendix 9

NCEE-MPTPA: Cambridge Exam Item with Student Response

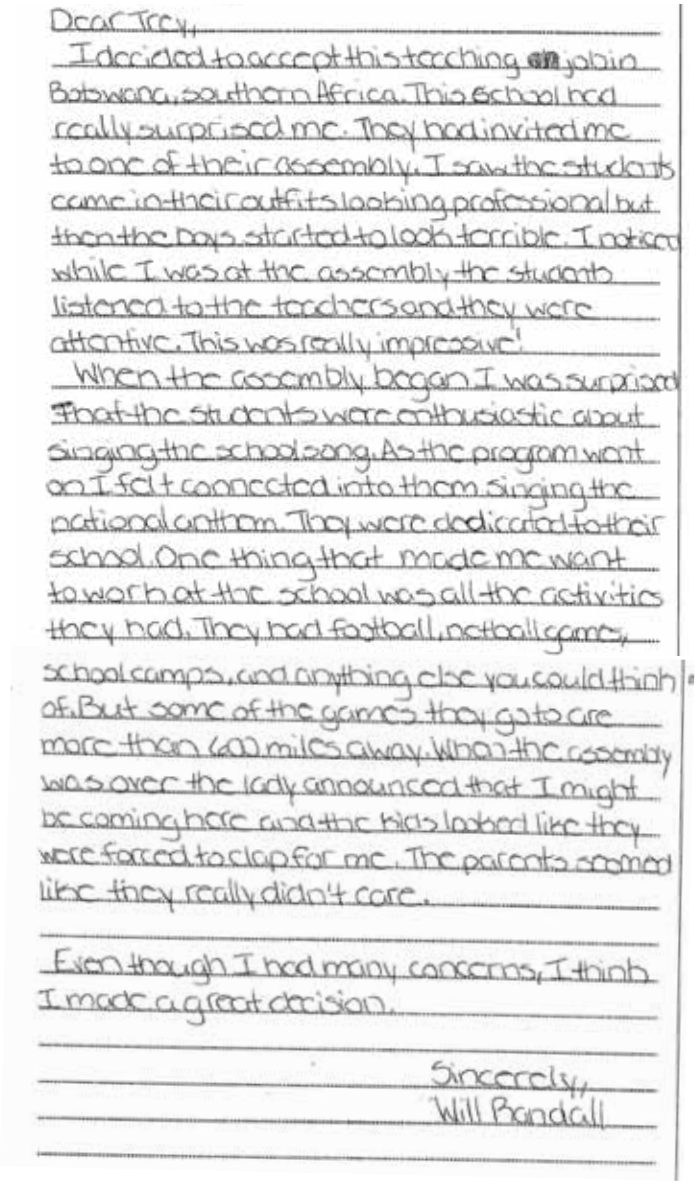
Task Description: Students are asked to read a page-long 300 word passage about a teacher, Will Randall, deciding whether to accept a position at a school in Botswana. The school is in the process of moving to a new location. The passage is written in first person, as the teacher.

Students are then asked to write a letter to a friend, in the voice of the teacher, to explain why they decided to work as a teacher in the school. The response must address specific criteria outlined, e.g., including a description of the teacher's impression of students and parents at the school. Students can receive a maximum score of 20 "marks" (points) for their letter: 10 for content and 10 for writing quality. The teacher's item scoring guide or "marking scheme" is quite detailed and specifies how points should be awarded.

More information about the IGCSE system can be found on the Cambridge website: http://www.cie.org.uk/qualifications/academic/middlesec/igcse/overview

Sample items and marking schemes can be found here: http://www.cie.org.uk/qualifications/academic/middlesec/igcse/subject?assdef_id=852

Sample Student Response:



Dear Trey,

I decided to accept this teaching job in Botswana, southern Africa. This school had really surprised me. They had invited me to one of their assembly. I saw the students came in their outfits looking professional but then the boys started to look terrible. I noticed while I was at the assembly the students listened to the teachers and they were attentive. This was really impressive!

When the assembly began I was surprised that the students were enthusiastic about singing the school song. As the program went on I felt connected into them singing the national anthem. They were dedicated to their school. One thing that made me want to work at the school was all the activities they had. They had football, netball games, school camps, and anything else you could think of. But some of the games they go to are more than 600 miles away. When the assembly was over the lady announced that I might be coming here and the kids looked like they were forced to clap for me. The parents seemed like they really didn't care.

Even though I had many concerns, I think I made a great decision.

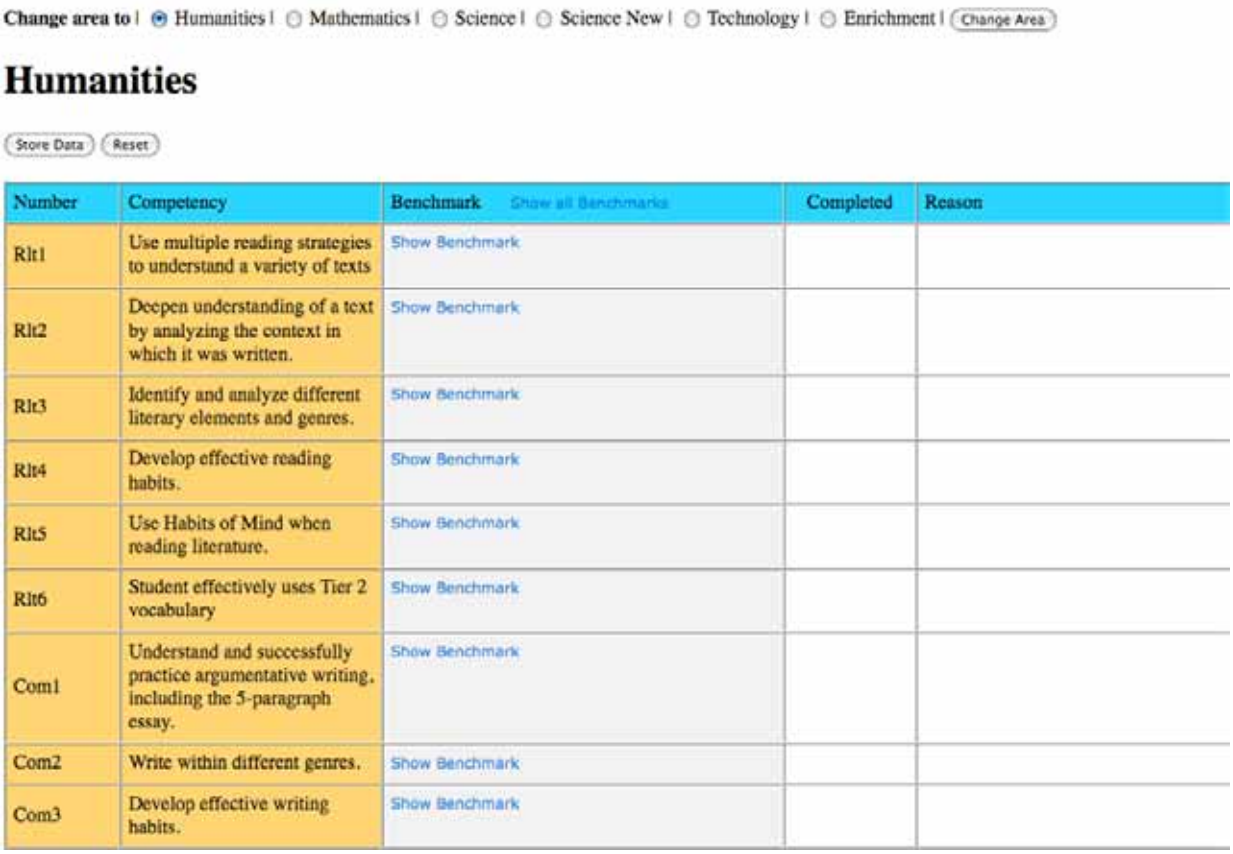
Sincerely,
Will Randall

Appendix 10

BDEA: Sample Competency Tracking Report

Presented in the following five screenshots:

Screenshot A



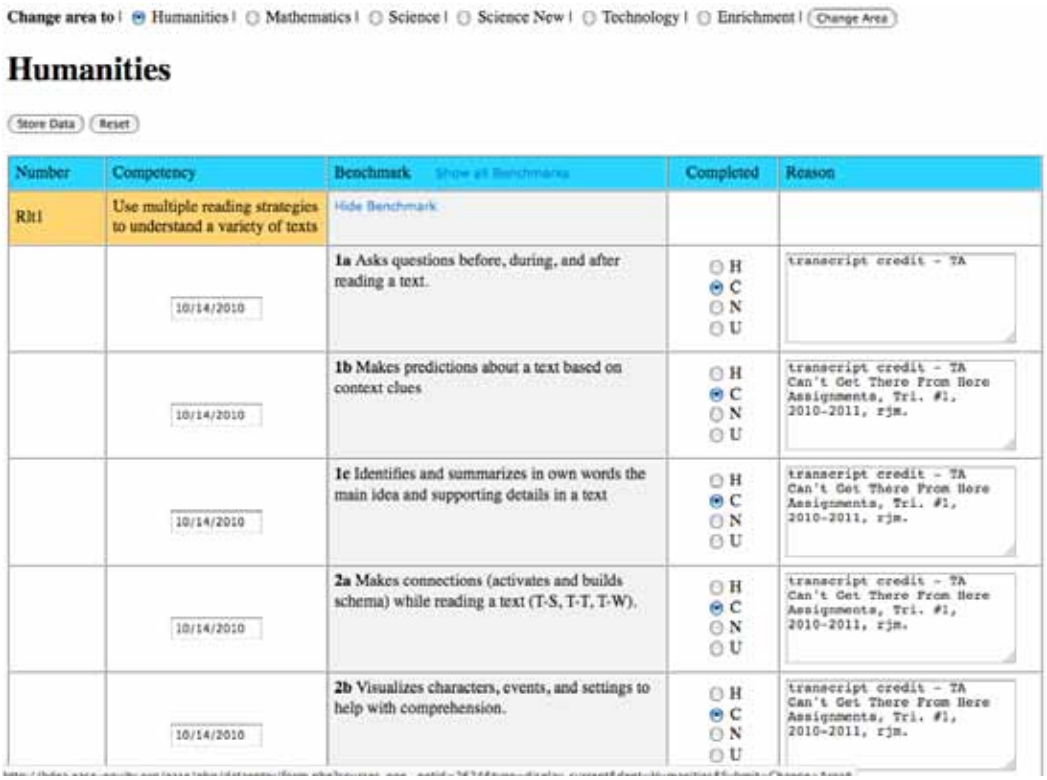
Change area to | Humanities | Mathematics | Science | Science New | Technology | Enrichment | Change Area

Humanities

Store Data | Reset

Number	Competency	Benchmark Show all Benchmarks	Completed	Reason
Rlt1	Use multiple reading strategies to understand a variety of texts	Show Benchmark		
Rlt2	Deepen understanding of a text by analyzing the context in which it was written.	Show Benchmark		
Rlt3	Identify and analyze different literary elements and genres.	Show Benchmark		
Rlt4	Develop effective reading habits.	Show Benchmark		
Rlt5	Use Habits of Mind when reading literature.	Show Benchmark		
Rlt6	Student effectively uses Tier 2 vocabulary	Show Benchmark		
Com1	Understand and successfully practice argumentative writing, including the 5-paragraph essay.	Show Benchmark		
Com2	Write within different genres.	Show Benchmark		
Com3	Develop effective writing habits.	Show Benchmark		

Screenshot B



Change area to | Humanities | Mathematics | Science | Science New | Technology | Enrichment | Change Area

Humanities

Store Data | Reset

Number	Competency	Benchmark Show all Benchmarks	Completed	Reason
RIt1	Use multiple reading strategies to understand a variety of texts	Hide Benchmark		
	10/14/2010	**1a** Asks questions before, during, and after reading a text.	H C N U	transcript credit - TA
	10/14/2010	**1b** Makes predictions about a text based on context clues	H C N U	transcript credit - TA Can't Get There From Here Assignments, Tri. #1, 2010-2011, rjm.
	10/14/2010	**1e** Identifies and summarizes in own words the main idea and supporting details in a text	H C N U	transcript credit - TA Can't Get There From Here Assignments, Tri. #1, 2010-2011, rjm.
	10/14/2010	**2a** Makes connections (activates and builds schema) while reading a text (T-S, T-T, T-W).	H C N U	transcript credit - TA Can't Get There From Here Assignments, Tri. #1, 2010-2011, rjm.
	10/14/2010	**2b** Visualizes characters, events, and settings to help with comprehension.	H C N U	transcript credit - TA Can't Get There From Here Assignments, Tri. #1, 2010-2011, rjm.

Screenshot C

Screenshot D

Screenshot E

BDEA Competency Reports	Trimester 2 of Academic Year 10-11
Name: **Advisor:** **MCAS (10-11/T2)** Ela: 256 | Math: 246 | Sci: 248	**Possible School Days:** **Days Attended: TBA**
Humanities Report **111 out of 139 Completed Benchmarks**	**Comments:** demonstrated highly competent work in Advanced Biology. She demonstrated 13 out of 15 knowledge benchmarks. This is more than the 70% benchmark requirement to move on to the next science class. She demonstrated 10 science skills benchmarks, which need to be 100% complete before graduation. Therefore, next trimester will be finished with science requirements class. did an excellent job and earned the science excellence award for this class.
Mathematics Report **77 out of 106 Completed Benchmarks**	**Comments:**
Science Report	**Comments:** demonstrated highly competent work in Evolution. She demonstrated 12 out of 12 knowledge benchmarks. This is more than the 70% benchmark requirement to move on to the next science class. She demonstrated 10 science skills benchmarks, which need to be 100% complete before graduation. Therefore, next trimester will be finished with science requirements class. did excellent work this trimester and worked hard to complete all major assignments earning

Appendix

11 Diploma Plus: Estimated Grade Feature

Appendix 11: *Diploma Plus.net's* "Estimated Grade" Feature

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This project was supported by the Bill & Melinda Gates Foundation