

Case Study: The Capstone Project at Chelsea High School

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Capstone projects serve as the centerpiece for an assessment system that values problem-solving and frames assessment as learning opportunities for students and teachers.

Chelsea High School educates 1,560 students in Chelsea, Massachusetts. As a gateway district, Chelsea Public Schools welcomes and educates *all* students and families. English is a second language for 87 percent of the student population; one third of our students are designated as English language learners (ELLs).

Every January and May for one week, we break from our traditional, four-periods-a-day bell schedule and the fast pace of a typical high school day. We slow everything down and ask Chelsea High School students to come in by appointment to present on a topic in which they have particular expertise: their own learning. This presentation is their capstone.

SHIFTING THE MINDSET

Chelsea High School illustrates how schools can integrate new policies and

practices into their own vision for education rather than merely follow a path of compliance with district and state mandates. In 2012, we decided to develop our own authentic formative assessment system aligned to the Massachusetts Frameworks and state standardized tests (MCAS) in 2012. We strive to integrate performance assessment into everyday work, including teaching, evaluation, coaching, training, and faculty meetings. We have shifted our mindset to viewing assessment as a learning opportunity in and of itself – for both students and teachers – and have adopted the phrase, “learning by doing.” For example, the science lead commented:

In the past, I used to think that students needed to completely understand certain scientific facts first, in order to be able to solve authentic scientific problems. But in practice, I seldom let students try those scientific problems, because

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students never showed a complete understanding of the relevant facts. Once we switched to performance assessments, I saw that students are capable of learning scientific facts at the same time as they are solving a problem. As a matter of fact, I think that their learning is enhanced: if students see that they need to solve an engaging, authentic problem, they will be more motivated to learn the facts needed to solve the problem.

This assessment system has been a long time in the making. Our transformation is a result of sustained work around a coherent vision as well as a deliberate investment in our capacity to purposefully collaborate across lines of authority. The process involved many steps: building structures and skills for collaboration, articulating a “Vision of the Graduate,” unpacking the Massachusetts Frameworks, writing lesson plans and designing performance tasks, sharing those plans, giving each other feedback, calibrating on common rubrics, and collectively examining student work. Every step has involved individual teachers, department lead teachers, instructional coaches, administrators and curriculum coordinators in development of the overall assessment system as well as key curricula such as department rubrics and performance assessments.

ASSESSMENTS AS LEARNING OPPORTUNITIES FOR STUDENTS

Throughout the year, students work on using quarterly performance assessments (QPAs) to demonstrate their understanding in courses ranging across English Language Arts, Pre-Calculus, Painting and Drawing for Realism, and World History. Capstone presents students with an opportunity to review and revise their QPAs, cement their learning, *and* reflect on

who they are as learners. Using their work, revisions, and rubrics as evidence, students articulate and analyze their growth throughout the school year, noting specific challenges and triumphs.

During one presentation, a sophomore enthusiastically explained why he performed poorly on a first-quarter history assessment, and how he used his rubric and teacher feedback to improve his writing and analysis.

Another student detailed his process for decoding a new piece of music and how he might, going forward, apply the same technique to his algebra course. Performance assessments give students the opportunity to apply new content knowledge and skills. Capstone allows space for “meta-cognitive learning,” where students can step back, reflect, and modify their approach.¹

Performance assessments are different from traditional tests. A CHS alum shared:

A test shows if you know obvious facts, but when I did something like [the historical argument essay], it actually made me take the time to concentrate. I was able to really think and really understand and dig through all these [historical] documents so I could really understand.

The inclusion of reflection and revision as part of the cycle adds rigor, allowing for a second, meta-cognitive level of learning. A current senior commented:

QPAs are good for me as a student, because I am not only developing skills in class but also developing skills as a person. Capstone gives me the opportunity to reflect on myself as a person.

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¹ For more on meta-cognitive learning, see <https://lincs.ed.gov/programs/teal/guide/metacognitive>.

TEACHER LEARNING AND COLLABORATION

QPAs and the capstone project are also learning opportunities for CHS teachers. Successful implementation of QPAs or capstone does not come from purchasing materials, programs, and new assessments; it comes through sustained conversation with and among teachers grounded in student work. A learning system where assessment and instruction are integrated requires an investment in job-embedded professional development to support the teacher learning to effectively implement the new standards.

We are creating a collegial space and building a school culture through content-based Professional Learning Communities (PLCs), which meet weekly during the school day and are led by instructional coaches and administrators. Within the PLCs it is not only okay for teachers to put their work on the table and engage in public learning; it is required. Teachers engage in co-construction of lessons or QPAs, lesson rehearsals, and data conversations rooted in student work to explore what proficiency in the standards means, what students understand and can do, and what the task design allowed students to demonstrate.

For example, in a recent PLC, a group of algebra teachers grappled with how to design an exit ticket that would demonstrate if students understood that all points that satisfy a particular equation are on the graph of the line. They wanted to design a question that had multiple solution pathways and checked for conceptual understanding, not just mathematical fluency. PLCs allow teachers, instructional coaches, and administrators to foster a culture of collaboration, inquiry, and public learning across grade-levels, content areas, and traditional authority lines.

The process of creating departmental rubrics has been a critical step across all content areas. The visual arts lead recounted:

As a group, we were able to identify the most valuable artistic habits we wanted our students to have. We realized that skills in reflection, criticism, and process were often previously marginalized at the expense of artistic technique. Now, because the rubric requires us to evaluate the other types of skills, they have been integrated much more fully into instruction and daily practice.

The teacher added that the benefits are significant for teachers and students:

Students who are able to more independently follow an artistic process and think critically make better artwork. Plus, these skills are transferable to other subjects.

When considering common rubrics and common assessments, some teachers may worry that this kind of collaboration may have a negative impact on their autonomy or creativity in the classroom. However, having shared endpoints has not resulted in uniform units or lesson design; every teacher must be responsive to the students in front of him or her to determine how to help them reach these common goals. The work is often perceived as more collective because there are common expectations and language and, in turn, shared dilemmas and solutions developed and owned by the entire team.

In Chelsea, the work has been empowering for teachers and students. As one teacher noted:

I also appreciate how the specific language in rubrics helps students with goal setting and provides concrete feedback. They are able to clearly see why they are being scored

at a “developing” level rather than “proficient” because the rubric language is so clear and specific.

As a result, students can talk about themselves and their academic knowledge and soft skills in a way that puts them in control of their learning and futures – and allows them to see a way forward. One CHS senior said:

Performance assessments are different than regular tests because actual tests do not ask how you prepared for it. [A] performance assessment gets in depth, it talks about how you prepare for the test and what skills you used. Performance assessments impacted me as a student by getting to know what my flaws were.

The work of creating and completing meaningful performance assessments is not easy and requires shared commitments from both teachers and students. Even with that in mind, the ELA lead reports:

I’ve seldom had a student who didn’t seem to genuinely enjoy talking about their learning, particularly the accomplishments they’re most proud of. I believe that capstone is a renewing experience for teachers and students alike; it allows us to think about what we’ve accomplished (and how) and to set goals for future teaching and learning. Personally, I’ve found that it helps me to get to know students on a deeper level as learners and as people, and it has helped to build a sense of community and support in my classes.

The shift in our understanding of students and actual student learning also, necessarily, leads to shifts in teacher learning. As one teacher reflects:

Recently I looked at some of the reflection activities and evaluation methods I used in my own instruction in the years before redesign. It was clear to me then how much better my teaching has become. I am asking more difficult questions, holding students more accountable for high-quality responses, and giving them more robust and better-quality feedback.

For more about Chelsea High School, visit <https://www.chelseaschools.com/cps/schools/high-school.htm>.

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— Chelsea High School teacher