

## Promising Practice in Action: *Literacy Integration Across the Curriculum*

Mid-Coast School of Technology (MCST)<sup>1</sup>  
Vocational Region 8  
Rockland, ME  
Tim Hathorne, Director

- **Location:** Independent building on the seacoast
  - **Student population:** 300 students on-site; another 150 are served off site
  - **Sending schools/districts:** 7 (3 are island districts)
- ▶ **Program focus:** Literacy integration across the curriculum

Under the leadership of director Tim Hathorne, MCST has been working on integrating literacy development into all CTE program areas for several years. Literacy, at MCST, is defined as “reading, writing, math, and critical thinking.” The benefits are clear. “Quite simply,” says Hathorne, “students are doing higher quality work.”

### Getting Started

The path to a program that fully integrated literacy into all CTE program areas did not happen overnight—nor was it straightforward.

Some milestones of the process:

- 1999–00 The School-Based Learning Team (SBLT) at MCST was established and met monthly. During the first two years there was a focus on instructional planning and design and portfolio development.
- 2001–02 An all-school portfolio requirement was implemented by vote of the faculty. Assessment tools (rubrics, checklists), a mission statement, vision statement, and code of conduct were also developed that year.
- 2002–03 Jean Lawrence (SBLT chair) was hired as Staff Development Coordinator and the SBLT began to look at the lack of math and reading skills some students brought to MCST. Monthly meetings continued with up to 85% of the staff voluntarily attending. There were also twice monthly staff development workshops and faculty meetings once per month. Staff met frequently—this was a big shift. The SBLT “recognized a literacy problem and decided to study it” by reading a variety of texts together. Based on this study, a common definition of literacy was adopted (Meltzer, 2001, p. 6). The team also decided that baseline testing should be done using the WRAT to assess students’ skill levels in math, reading, and spelling, and that trade magazines should be ordered for all programs.
- 2003–04 The SBLT lexiled all texts and recommended the use of Bloom’s Taxonomy in the classrooms. Jean Lawrence and Tim Hathorne worked with literacy consultant, Dr. Candice Bray, to get input on specific literacy strategies that teachers could use and direction for how to continue to deepen the literacy improvement focus.
- 2004–05 MCST was selected to be part of the Model Schools Program. The school implemented the Scholastic Reading Inventory (SRI) at the beginning and end of the year, which provided all students with a lexile score. Teachers in each program area

---

<sup>1</sup> This mini case study is based on information gathered from multiple conversations with MCST staff, document review, review of student work, and data collected during a site visit in April 2006.

adapted the idea of bellwork from Dr. Harry Wong. Lawrence created and shared literacy model lessons with staff. The Lexile Framework was hung up in every classroom. Exhibitions and presentations began in the English and medical science classrooms and grew to several other program areas. Lawrence conducted a Literacy in the Content Areas workshop for BRVC educators in February 2005. Lawrence and Hathorne played a leadership role for academic instructors at CTE centers in the state Maine Association of Vocational Education Administrators (MAVEA) organization.

2005–06 Literacy assessment in reading and math was increased to fall, mid-year, and end of year. Re-emphasis of the literacy focus, the focus on the use of Bloom’s Taxonomy, and the teachings of Harry Wong’s *Effective Teacher* series occurred. Twenty-five common strategies the faculty had researched and been using were put together into a booklet in March 2006 and “refresher” training on the strategies was done to promote renewed emphasis. Teachers were asked to reflect on SRI results mid-year and to continue or alter the use of strategies based on the results of student performance compared with scores at the beginning of the year. Teacher professional development and support from the professional development coordinator was ongoing.

### **Components of Literacy Integration**

At MCST, a strong set of 12 common practices was embedded within all program areas:

1. Common set of literacy support strategies—25 common reading comprehension and vocabulary development strategies have been identified and are known and used by teachers and students. This includes Word Walls in every classroom. Many of the strategies include an emphasis on critical thinking and use of the upper levels of Bloom’s Taxonomy.
2. All work projects have a writing component.
3. Career portfolios completed in every program area have common required written elements— personal essay, resume, letter of application, list of references, written reflections on work completed.
4. Career portfolios completed in every program area have common required reading elements, for example, a career explorations section for articles that the student read that contributed to career selection and planning.
5. Scaffolding of writing assignments—special education and students with weak reading and writing skills use worksheets that guide reflective reading and writing from which more independent writing can be developed. Many assignments are “chunked.”
6. Bellwork—instructors use the first few minutes of classroom time to have students focus on a reading, writing, or math assignment related to the topic at hand.
7. Focus on vocabulary—vocabulary discussions, use of Word Walls, and expectations that students use technical vocabulary in the shops and the classroom all assist vocabulary development in each program area and support content-area reading comprehension.
8. Article responses—all areas have trade magazines and use articles from the Internet for students to respond to and make connections with. Instructors develop short guided reading assignments for various articles that everyone in the class reads, or students choose articles to respond to and discuss/present to the class.
9. Presentations—students in most program areas are expected to do presentations and demonstrations. This occurs informally as students present articles they have read to their

© PCG’s Center for Resource Management with permission to use locally.

peers using a specific protocol. More formal presentations and demonstrations are scored using rubrics and the feedback is provided to the students. For example, four-point rubric provided to students in the Tech I and II classes included the following categories: *organization, content knowledge, visuals, and preparation.*

10. Common use of rubrics—common rubrics have helped both instructors and students focus on clarifying expectations and recognizing levels of quality. They are used to evaluate common portfolio elements and support school-wide development of student habits of reflection and metacognition (“thinking about your thinking”—a critical habit for a quality worker, reader, or writer).
11. Lexiling of all texts—MCST has lexiled all texts and is developing an online library of lexiled articles so they can match students with texts at their lexile level and/or know when scaffolding or use of strategies will be needed to help students understand what they read.
12. Reading assessment three times per year—recognizing that just knowing where students begin or end is not enough, MCST has instituted a mid-year assessment to allow instructors to respond appropriately to growth patterns through continued support or changes in instruction.

### What It Looks Like in Action

At MCST there were bookmarks with the school’s logo and motto: “Education through **applied learning**—where academic literacy finds meaning.” For MCST, the definition of literacy included reading, writing, and math literacy. To know what was talked about, one only had to visit the maze of classrooms and shops that make up MCST. Students were *busy* at MCST—creating, fixing, designing, reading, writing, discussing, problem solving—amidst the whirl of machinery and the echoes of hammering. Most were quite articulate when asked to describe what they were working on. There was a clear belief in the importance of student choice—students work on different projects or project components, read various articles, research different topics—depending on interest and, perhaps as a result, student engagement was high. Words and expectations for high quality work in the classroom and in the shop were everywhere.

- In the carpentry classroom, the words on the white board included: *miter joints, tenons, tang, oilstones*. There was a reading assignment in the NCCER textbook—Section 3, p, 52–53. Students recently completed a research project to develop and price out a tool list. The bellwork assignment was portfolio related.
- In the precision machinery classroom, the word wall included: *traverse, rate of feed, arbor cutters, shank cutters, facing cutters, side cutters*. Students self-assessed their work against criteria and added to their portfolios. Required portfolio contents and some math problems were on the board. The instructor said: “No matter what they do in here, it’s all math-based.” Every week or two he has students: 1) pick an article (copies of trade journals were scattered around on the tables and the shelves); 2) identify their own key words and answer questions; and 3) figure out the procedure or actually make the part or describe how it is done. “Once they get started, they love the magazines and are always looking at them.” A glance at the portfolio requirements revealed that for each project, students were to include a procedure sheet, a blueprint, sketch or drawing, a photo and comparison sheet, a photo with a written description, a work sample summary, and a project feedback form.
- In the auto collision classroom, the words on the word wall included: *isocyanates, viscometer, Zahn cup, mill thickness*. The instructor explained about a three-part project that students completed that quarter in which they 1) selected an article which was connected to

© PCG’s Center for Resource Management with permission to use locally.

what they were working on and current; 2) filled out a reading guide as they read the article; and 3) presented an oral presentation to the other students about the article. The goal was to stress the importance of “reading the literature so they keep current.” Students received a packet with a planning worksheet, a speaker’s checklist, a self-evaluation sheet, and a rubric for the oral article presentation. Presentations were evaluated using a rubric which showed how well they met the criteria. “It worked well, it really, really did. I would do it again. I wasn’t too sure about it but they did a great job.”

### **What Teachers Said**

“Kids in this class have to do a lot of reading—they have to know how to get it, where to find it, and how to apply it. I make them read before we even start doing a project...They don’t give me much trouble about the reading. Just keep it in the content area and you’re fine.”

“Students have to be able to read the tables and the diagrams, know how to interpret the information and where to find the relevant information.”

“I don’t accept ‘do you have a thingy?’—I don’t even acknowledge that...Make-up work is always reading. They choose. I say “make it something that will excite me,” not the latest model of Yamaha, but something about a diesel motorcycle. I ask them to read and highlight the information that is interesting and going to make it different. Then I check what they highlight.”

### **What Students Said**

Students seem mostly unfazed by the reading, writing, and math focus at MCST. One student said: “There’s a lot more reading and writing and math. I knew math was involved but I didn’t know it would be that extreme.” The following quotes are from students who were in classes during the April 28, 2006 site visit.

About reading at MCST:

“The reading here is much more beneficial than reading Shakespeare. It’s interesting. I can understand it.” ...“It’s very straightforward, tells you the facts. It’s written in ‘English’ and I’m just more interested in it.” ...“Here I read and it’s about construction. At the high school it’s like literature and stuff. I like reading here better than at the high school. I don’t really like to read. You need to pay attention to everything but [in the reading we do here] there are pictures and diagrams.”

About writing at MCST:

“Writing is different here because we actually use it. I used my portfolio to get a job. I just started there. They do the same stuff we do here. I know exactly what they’re talking about.”

About achievement:

“I do better academically here than at the high school—by far.”... “Coming here got me out of trouble, it really did.” ...“Wish I’d come here sooner.”

### **Academic Classes**

MCST offers technical English classes for credit, utilizing a range of literacy support strategies and the PLATO system to provide instruction. The literature anthologies contain pieces related to work and career settings, and ethical dilemmas and the projects are connected to the student’s CTE program area. Research skills, presentation skills, close reading, writing, and other academic literacy skills are the focus of the curriculum. Math classes are also taught at MCST for students who cannot take them at their sending high school.

© PCG’s Center for Resource Management with permission to use locally.

## **Use of Data**

“Data-driven decision-making is key” says Hathorne. MCST tests all students using the SRI to get a lexile score for each student. Teachers have taken the test themselves and they talked to the students about the importance of the test so they won’t “blow it off.” Students were retested at mid-year and again at the end of the year to track growth in reading. Teachers were asked at mid-year to look at how many of their students have grown as readers since the beginning of the year and what types of instruction they think contributed to this growth. Then they were asked to look at the students making little or no progress and to determine how instruction should change to better support the growth of these students as readers. MCST provides close and personal accountability and parallels the types of self-assessing programs students are asked to do. MCST also used the WRAT math test to track student progress.

## **Improving Academic Rigor**

The reading, writing, presenting, and self-assessing demanded in all program areas increases the rigor of whatever is being taught. Every program has the Maine Learning Results (MLRs) that are integrated into it posted as part of the course description. For example, there was a scope and sequence overview of the teaching plan by quarter for program competencies that outlines the learning tasks, MLRs taught and assessed, and the types of reading and math activities that support the instruction of each area. When students do a work sample for their portfolio, they are required to list the relevant MLRs they have addressed during the project.

## **Additional Supports in Place**

There were on-site technical English classes, an integrated Medical Science/English program where students received credit for both subjects, ongoing professional development, and participation by the majority of teachers in the school-based learning community (SBLT). Both Lawrence and Hathorne placed articles in teachers’ mail boxes relative to the importance of academic and literacy integration to prepare students for the 21<sup>st</sup> century workplace; emphasized the importance of data-driven decision-making; and found resources for professional development, trade magazines, assessments, and other key supports.

## **Evidence that It Makes a Difference**

Evidence of teacher buy-in to the notion of academic and literacy integration into all program areas was readily seen on a quick tour, as was evidence of student engagement and the common literacy integration components. All scope and sequence documents included literacy supports. But is it making a difference for student achievement? Hathorne and Lawrence claimed that SRI and WRAT end-of-year trend data showed a steady increase in reading and math scores over the past three years. MCST is in the process of looking at additional ways to use the data it has collected to support individual student progress. The center wants to document and track how well it serves students across the board, and which types of learners meet with success, given program supports. Preliminary data from last year showed that the majority of students made gains as readers based on SRI data. More planning and analysis are needed for current data to serve adequately for progress monitoring.

## **Next Steps**

Continue to:

- Develop a more comprehensive data analysis and progress monitoring system.
- Use the Successful Schools Network membership to support emphasis on literacy integration.

© PCG’s Center for Resource Management with permission to use locally.

- Review schedules for island students and students from sending schools, and utilize technology to ensure that the academic and literacy integration is not inadvertently left out of their program of study.
- Review, on a rotational basis, the common practices, requirements, and strategies to ensure ongoing effectiveness.
- Provide teachers with professional development.
- Ensure that new teachers are introduced to, and supported to use, common practices and skills.
- Strengthen communication with the sending schools/districts and develop, where possible, more understanding of MCST offerings, goals, and expectations.

*For more information, contact Tim Hathorne, Director, or Jean Lawrence, Staff Development Coordinator.*