By Andrew Halter and Jeff Finch

Three R's for Digital Coaching

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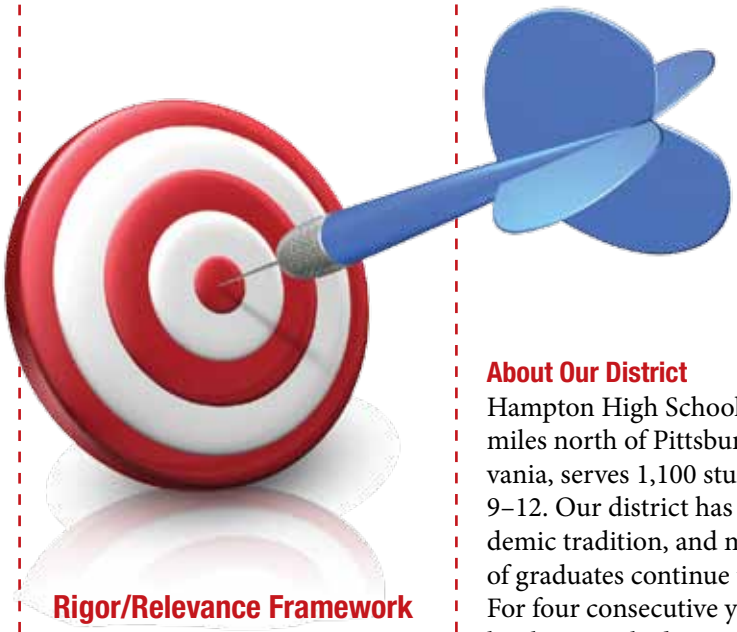
and Assessment

Help teachers target higher-order thinking with rigor, relevance, and rubrics.

The coaching office at Hampton High School is a busy place. One full-time instructional coach and two part-time interns from Duquesne University's School of Education are crammed into a 12' x 20' "office," along with various projectors, cameras, iPod carts, cases of student response devices and various other instructional technologies. The room acts as command central for instructional technology support in our building, with a constant flow of teachers in and out, buzzing with questions, such as "What do you think about…?," "Is there a way we could…?," and "How can I get students to…?" There's a whiteboard on the wall where we keep a list of current projects, and this year we have scribbled as many as 20 simultaneous ventures on it in different-colored markers. In a building with around 70 teachers, this whiteboard is a clear indication that business is booming!

Over the past four years, our district has made tremendous strides in technology integration. While we continue to strive to improve instructional practice, a full-time instructional coach and a buildingwide focus on assessment are helping us move forward with embedded professional support and a common vision.



Rigor/Relevance Framework

The Rigor/Relevance Framework, developed by the International Center for Leadership in Education, has four quadrants. Each is labeled with a term that characterizes the learning or student performance at that level.

Quadrant A — Acquisition
Students gather and store bits of knowledge and information. Students are primarily expected to remember or understand this acquired knowledge.

Quadrant B — Application
Students use acquired knowledge to solve problems, design solutions, and complete work. The highest level of application is to apply appropriate knowledge to new and unpredictable situations.

Quadrant C — Assimilation
Students extend and refine their acquired knowledge to be able to use that knowledge automatically and routinely to analyze and solve problems and create unique solutions.

Quadrant D — Adaptation
Students have the competence to think in complex ways and also apply knowledge and skills they have acquired. Even when confronted with perplexing unknowns, students are able to use extensive knowledge and skill to create solutions and take action that further develops their skills and knowledge.

About Our District

Hampton High School, located 10 miles north of Pittsburgh, Pennsylvania, serves 1,100 students in grades 9–12. Our district has a strong academic tradition, and more than 90% of graduates continue their education. For four consecutive years, Hampton has been ranked among the top 6% of the nation's high schools by *Newsweek* magazine and was awarded a "silver" ranking by *US News & World Report* for three consecutive years, marking it among the top 3% of U.S. high schools.

Four years ago, our district and many others in Pennsylvania received an infusion of technology from a state grant initiative called Classrooms for the Future (CFF). The grant provided plenty of equipment for our high school, including laptops, LCD projectors, and interactive whiteboards in all core classrooms. The grant also provided funding and training for a full-time instructional technology coach and required online courses for staff.

The CFF initiative began with a "ready, fire, aim" philosophy that encouraged teachers to explore new tools and approaches with the support of a coach, who acted initially as a resource provider and trainer. As time progressed, teachers began to aim their use of technology, weeding out what did not work for them and adopting and improving what did. The role of the coach also began to shift beyond just resource provider to co-planner, co-teacher, and embedded professional developer.

Role of the Coach

When Pennsylvania's Department of Education set the criteria, it asserted that the coach was to be a master teacher first and a technology person second, with the idea that the position would mature well beyond the role of tech support. In our district, this position is now a full-time instructional coach specializing in the educational process behind digital age learning. Working with teachers across disciplines, the coach has gained a unique perspective that allows him to work as a conduit for both new ideas and best practices. He works one on one with teachers daily by co-planning and co-teaching lessons and helps design and facilitate staffwide professional development.

Beyond the CFF program, our coaching initiative receives support in resources, training, and networking via our local educational service district and the Pennsylvania Institute for Instructional Coaching (PIIC), a statewide network of coaches funded by the Annenberg Foundation. This support has been instrumental in making effective use of coaching, which in turn has helped our teachers make great strides in embedding technology, rigor, and relevance to enhance student outcomes.

Focus on Assessment

In addition to our coaching initiative, for the past six years, Hampton teachers have been using assessment portfolios as a vehicle to improve the quality of instruction through the accountability of more rigorous and relevant assessment. These portfolios represent a catalog of each teacher's assessment tools mapped in real time and are used to guide and ground professional discussions, co-teaching, planning,

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observation, conferences, inservice workshops, and teacher reflection. Portfolios have also been influential in establishing more teacher and student accountability for assessment as a shared vision of what matters.

Portfolios are available for teachers' review at any time and are shared in both structured and informal exchanges. Teachers complete reflection sheets on these exchanges as a means to enhance both personal and collaborative growth. Because teachers are constantly sharing assessments and validating their curricular connections, this process allows the curriculum to remain dynamic but also common and balanced from teacher to teacher and within content areas. Curriculum is continually fluid, as teachers are constantly comparing and reviewing assessments for effectiveness. Additionally, we catalog portfolios yearly and use them to map instructional growth. We also embed a data collection tool that identifies frequency and value of "Quadrant D" elements of the Rigor/Relevance Framework in summative assessments (see "Rigor/Relevance Framework" on page 20). Find detailed assessment portfolio resources on our wiki, The Digital Shift (see Resources at the end of this article.)

Currently our work with assessment, driven by a Middle States Accreditation for Growth (AFG) goal, is focused on increasing Quadrant D assessments to improve the learning experience and increase retention through relevant applications. This goal, based on the ideas outlined in William R. Daggett's book, *Rigor and Relevance From Concept to Reality*, challenges teachers to design lessons that push students into higher-order thinking and help them find relevant connections and applications for curricular content. Daggett describes this rigorous student performance as "the ability to gather knowledge from a variety of sources to solve a complex problem." In short, we identify Quadrant D as high levels of Bloom's Taxonomy combined with relevant connections, as demonstrated through multidisciplined, real-world applications. Culminating assessments ultimately allow multiple pathways to demonstrate learning and often yield unpredictable outcomes. This project-based approach requires a facilitated process that allows students to "find their own way" to a rich understanding. As teachers review portfolios and modify assessments to hit this criteria, coaching support becomes invaluable as teachers seek to improve instruction by adopting new strategies and technologies.

Rubric Evolution

When we started our rigor and relevance initiative, we found that in addition to the creativity required to design relevant application projects, teachers also found a challenge in designing rubrics to accurately measure this level of application. They found solid rubrics to be time consuming to create, and many found it difficult to quantify and fully articulate varying levels of rigor and relevance. In many cases, scoring guides were merely checklists that students could complete satisfactorily with minimal effort. The desire was to develop rubrics that both guide and measure more meaningful performance. In the past few years, teachers have been designing and implementing more effective rubrics through collaboration with the coach, who keeps them in a rubric portfolio. When working with a teacher to design a lesson, especially summative assessments that incorporate technology, the coach usually

starts the conversation with expected outcomes and rubrics. Teacher and coach examine examples from similar projects and design a rubric to fit the desired outcomes of the project. This approach ensures that skills and performance drive the project rather than technology, and it also helps teachers see interdisciplinary connections in skills and content.

This open sharing has helped to refine project-based rubrics that more deeply reflect components of Quadrant D lessons. Rubrics began to evolve as teachers identified essential skills relative to their content areas and clearly articulated levels of application to measure student performance. Find examples of our rubrics on our wiki.

Coaching in Action

The majority of our teachers use a variety of web 2.0 and digital storytelling tools in project-based and collaborative applications that push students to demonstrate content mastery through the creation of authentic products, such as websites, teaching tools, videos, podcasts, and multimedia presentations. A good example of a project that is the culmination of both our coaching support and our assessment initiative is a modern materials project done in an honors chemistry class, now in its third year of refinement.

Three years ago, a chemistry teacher met with our coach to bump up a lesson in rigor, relevance, and digital age skills. Previously, the assessment required students to deliver a PowerPoint that presented modern uses of chemical materials. After venting the usual gripes about student PowerPoints ("They just read the text," "They aren't very engaging," "They use too much bland information and show no real mastery of content"), we discussed several options for more engaging presentations, decided on an approach that would allow students maximum creativity, and drafted a rubric that reflected our desired outcomes. We based our outcomes on curricular objectives as well as digital age skills, such as collaboration and creativity. The project that ensued challenged students to use various multimedia and web 2.0 tools to create a dynamic and engaging web resource. The goal was to demonstrate a rich understanding of chemical structure, properties, and relevant applications of the materials, such as superconductors, ceramics, and polymers. We used the final product to help the students teach the rest of the class about their assigned chemical materials.

We focused this collaborative project with a clear, relevant purpose: Teach your peers, and place less emphasis on the tools and more on achieving a level of mastery required to effectively teach a concept. Students used a wiki as a starting point for their sites and integrated text, images, graphics, video, and tools such as Animoto, Blabberize, GoAnimate, Glogster, and many others to make their sites more engaging. Teachers dedicated no class time to teaching these tools. Instead, the teacher and coach provided in-class support, with the chemistry teacher as a content resource and the coach as a tech and design resource. A coach-created student resource wiki provided tips, tools, and instructions on various web-based strategies (see Resources).

Because everything is wiki-based, the process of project-based learning became more transparent, as we were able to check and guide progress along the way. We used the wiki discussion board to provide guiding feedback, and we checked on group member contributions via the History tab. The wiki also allowed students to continue collaborative work outside the classroom. Once the projects were complete, students used the wiki to evaluate all of their peer projects as well as their individual group-member contributions using Google Docs forms.

We also spent time working together to design a rubric that reflected expected outcomes, added digital age skills, and clearly articulated a sliding scale that measured rigor of content as well as creativity, presentation, and collaborative effort. A project such as this allows students to demonstrate a thorough understanding of content, because they are required to pull in information from a variety of sources, in a variety of modes, and organize it in a logical fashion as a website as well as a presentation platform.

Over the past few years, the project has evolved because of continued planning and collaboration between the coach and teacher. Each year, after working together to plan, teach, and assess the projects, we meet to debrief about how to tweak the project for the following year. As we discover new web 2.0 tools that can help support the project, we add them to the student resource page as options. Sharing this project format as a best practice has encouraged several other teachers to integrate this process into their own instruction. It is also a good representation of how our coaching process works:

- Start with a conversation fueled by Quadrant D and focused on assessment and not a specific tool.
- Research technology resources to help push the lesson to new limits.
- Plan a lesson and design an assessment tool.
- Teach with specific purpose.
- Debrief and refine for next year.
- Celebrate successes through sharing best practices.

Moving Forward

Our coaching office whiteboard shows clear evidence of continual progress, as we update it with new projects and erase those that are sure to be revisited the following school year. Vodcasts in Algebra II, podcasts in English 10, Google Earth tours in world geography, cross-country wiki collaboration in French II, Photostory projects in Biology I, digital literacy co-teaching in English 9, and web-based curricu-

lum resources are just a handful of this year's scribblings. Our focus on assessment, combined with our staff's embrace of coaching, has helped establish a system of transparency and accountability for both teachers and students, and perhaps more important, it exists as an embedded system of professional development and real-time instructional support. This focus has also nurtured a progressive culture of best practice, creativity, and flexibility that still maintains a common ground and a fluid curriculum. As we look toward the future, we hope to continually strive for instruction and assessment that demand inquiry, integrate technology, and, most important, infuse rigorous digital age skills.

Resources

Annenberg Foundation: www.annenbergfoundation.org

Classrooms for the Future (CFF): http://tinyurl.com/6z4gyta

Modern Materials Wiki Project: http://mrceccarelli.wikispaces.com/Modern+Materials+Project+2010

Pennsylvania Institue for Instructional Coaching: http://piic.pacoaching.org/index.php/piic-home

Pennsylvania Institute for Instructional Teaching: www.pacoaching.org

Rigor/Relevance Framework: www.leadered.com/rrr.html

The Digital Shift: www.thedigitalshift.wikispaces.com.

Tools for Students wiki: www.tools4students.wikispaces.com

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