This paper describes how two middle-school teachers teamed up to teach a grouping of ten- to eleven-year old students with a focus on innovation. They agreed to emphasize the use of a student-centered curriculum, letting the students select a topic or project that interested them as a group and that would take them out into the community. The project had to include note-taking, creative and transactional writing, computer applications, skill building in mathematics, and observation. Students decided to cross-age tutor local K-1 students and keep a record of their progress in order to develop a cross-age tutoring manual to help other students get started tutoring. They put it on a web page in order to gain computer skills. The innovation had to be tied to rigor in order for the teachers to be sure that their students were reaching higher levels of accomplishment. They believed that the innovation went very well, with students doing a good job of tutoring and creating a web page, but they were not sure that the project was rigorous enough. This paper examines what rigor is and why it is receiving so much attention, and it discusses what has fueled the push for innovation. It looks at the differences between rigor and expectations and between rigor and standards. Finally, it discusses teachers' definitions of rigor and beliefs about innovation. (SM)
Rigor and Innovation: Getting Both

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1998

Last fall I started team teaching 10/11 year-olds in their first year of middle school with Rob Caramella, a teacher in the Bank Street School for Children. I run downstairs for two two-hour sessions each week. When we started in the fall, we carefully articulated the skills and the knowledge we wanted kids to master during the year. The middle school teachers in the School for Children work collaboratively each year to determine the standards that they think each multi-age group of kids should reach. Then, individual faculty members at that grade level are free to organize their time with the children in any way they see fit. Besides the skills and knowledge we wanted the kids to get, Rob and I agreed that we wanted to push ourselves to learn a new teaching technique and decided to work on what the Foxfire Teacher Outreach Centers call a student-centered curriculum. While there are literally thousands of interpretations of what student-centered means, to us it meant that the kids select a topic or a project that interested them as a group. We suggested that it should take them out into the community to do something that the community would appreciate. Whatever the project was, it had to include note-taking, creative and transactional writing, computer applications, skill building in mathematics and some observational activities.

Given that task, the kids did something that was very interesting. First they thought quietly. Then one of them asked if they could get into groups to discuss this. We said sure. After an hour’s deliberation, each of the groups presented us with a list of the ways in which they would like to learn. (Show the list) All of them included performance based learning activities. Most of them were based in the arts. Rather than suggesting what they wanted to work on they told us how they wanted to learn.

Next we tackled the what. They asked us for suggestions. We read the newspaper together to help prompt us. After long and patient investigation, they decided to participate in President Clinton’s call to the nation to help all children learn to read by the end of third grade. (First, however, they argued about whether this was a wise way for the President of the United States to use his time: What if kids didn’t learn to read by the end of third grade? Would they feel even more stigmatized than before? What about putting a lot of untrained people in classrooms to work with kids? Was that a good idea? Not at all unlike that issues that the National Reading Association raised.) They decided that they would cross-age tutor some K-1 kids in a neighborhood school and that they would keep a record of their progress so that our class might develop a cross-age tutoring manual that might help other kids to get started tutoring. We decided that we would put this on the Bank Street Web page so that we would gain new skills using computers. To get organized, they mapped the schools in our
neighborhood and figured out which kids would most likely be interested in working with us. They charted the way they themselves learned to read by writing a memory piece about learning to read and then analyzed that for the different techniques that had enabled them. This was a really powerful assignment: some kids learned by phonics; some learned by sight recognition; some learned by memorizing stories they were read over and over and over again.

They also mapped whom they learned to read from. Some learned from parents and grandparents while others learned from their teachers or from other kids in their classes. Given the range of strategies that helped each of them, we asked them which strategy they thought we should focus on for our tutoring. They wrinkled their noses and looked at us like we were idiots—not paying attention at all! "We can't leave any approaches out," they said slowly and emphatically as if talking to fools. "The President wants EVERYONE to learn to read. We can't leave any strategy out or we wouldn't get to EVERYONE." Ah, that academics and specialists were so sensible!

In order to build their skill in tutoring, they designed a staff development seminar for themselves. The librarian came in and taught them how to select books and how to read out loud to children. Two of the faculty members in the literacy department in the college taught them techniques for whole word identification, how to use pictures as clues, how to sound words out phonetically. They wrote a grant to help us develop the Web page. So they would have information and examples to put on the Web page, they developed observation techniques that they would fill out after each tutoring session. They built an annotated bibliography of the books they were using. They did character sketches of their tutees. They read to each other, and then, went to work with their new reading partners at the Manhattan School for Children. We tutored from November through March. It was one of those miraculous sorts of things. I was anticipating all kinds of problems and difficulties, but within seconds of meeting their tutees, each of the dyads was settled down, reading quietly. Let me assure you that it did not go without hitches. Some of the little ones were not interested in reading. Others wanted to read the same thing week after week. Some of the little ones were not interested in reading. Some wanted to read the same thing week after week. Some wanted to read only very easy books. Another child only read books that were too hard for her. Our students got bored and rebelled in February. Turns out that each of them had selected the reading technique that he or she learned to read by and the little ones were getting bored. So, we regrouped and made sure that everyone tried a new approach for a few weeks. Then we introduced reading games. The reading specialist at the Manhattan School for Children and the classroom teacher both felt that this project was helpful to the children in their class. So far, so good.

Now we get to the hard part. It's spring and Rob and I begin to panic. Did our students get anything from this? Yeah, it was nice, but did they gain any skill? The kids start building their manual and the web page. We reviewed Web sites and analyzed them for quality. We read a few manuals to figure out how they are organized and to determine what makes them useful. We built the outline for the Web page: Introduction, etc. (Show overhead) and then they start sifting through all the work they have both done to figure out where it will fit in the web page. Then they begin writing and piecing it together. They came up to my office in groups to share
their work in progress. We did feedback groups. For the most part, the work is not

The Dilemma

The dilemma is that the innovation—the student-centered project—has to be tied to
rigor in order for us to be assured that our students are reaching higher levels of
accomplishment. The innovation is going along well; they did a good job tutoring and
their Web page is coming along. We're just not sure that it is rigorous enough.

This happens to be one of the critical connections that teachers and principals
must make if schools are to reach higher standards for all children. Recently, Bob
Hampel, Dick Clark and I and a bunch of other colleagues followed 150 kids through
their high school years to figure out whether the changes adults were making in their
schools were reaping benefits for kids in the form of heightened academic achievement.
We discovered an interesting dilemma. Superintendents, legislators, governors, chief
state school officers, the President of the United States and other policy makers have
been calling for higher standards. They want schools to deliver proof that kids are
performing at a higher level. When we visited schools, and asked the school faculty
what they were doing to improve student achievement, they referenced all the changes
they were attempting to make. "We have built a block schedule." Or "We are now
working in interdisciplinary teaching teams." or "We have a new approach to reading
which everyone is using for an hour a day." Seldom did either group—policy makers
or teachers—mention the focus of the other.

What is Rigor and why the current press?

Cognitive scientists have proved finally that intelligence is not genetic and the proof is
so compelling that the general public is beginning to believe it. Instead we are learning
that everyone has the capacity to learn to high levels of achievement given appropriate
stimulation and support. Another reason we are interested in rigor is that other
countries seem to do better than we do in certain areas and that makes Americans
competitive. It is a positive goal for politicians, and as the children in our schools
become more diverse, it is increasingly important that we reach all of them so that they
are later able to support our hopes for a strong democracy.

What has fueled the push for innovation?

Again, the work of cognitive scientists and psychologists has shown us that children
learn in different ways. That too is reaching the mainstream so that there have been
consistent efforts from the state, federal and the private sector to stimulate innovations
The Obie Porter bill. All of these are efforts to get educators to think outside the box, to
try new things to get more from kids. It is true that to get more from kids it is likely
that we will not be able to do what we've always done. We have to try new approaches.
What Is Rigor?

Rigorous Work

1. It moves students to accomplishments beyond current levels of achievement.

2. It requires concern for quality as well as effort.

3. It combines the need for content-based information and the intellectual skill it takes to explore this information.

What's the difference between rigor and expectations?

Expectations express our beliefs:
- "I believe all kids can learn."
- "I believe that Johnny will be able to read a whole book and discuss it by the end of January."

Rigor is demonstrated in the quality of student's work and is manifested in our analysis of our student's performance:

"Twenty three percent of the kids in my class are at or above reading level. What about the rest of them? Why aren't I getting to them? Here's what I do in reading each week. Help me think about how I might get more of them up to speed."

What's the difference between rigor and standards?

Standards indicate the level of accomplishment students must achieve to be successful. Standards have to be articulated and clear. They are the academic equivalent of the crossbar in pole vaulting.

Rigor is achieved when teachers examine students' work to reach consensus about whether the work reaches the standard. Rigor is achieved through the analytical examination of students' actual performance, in light of directions given, the assignment, and the resources made available. Teachers must examine all aspects of the curriculum, pedagogy and assessment that influenced students' work. When the work is not sufficiently rigorous, then adjustments have to be made in the assignment, the directions, and the pedagogical approaches.
There are, of course, dangers in shooting for rigor without thinking about new approaches. We found that teachers have varied definitions of what it means to engage kids in rigorous work. Their definitions include:

**Teachers' Various Definitions of Rigor**

- Curriculum Coverage
- Better Behavior
- Work Sheet Skill and Drill
- Subject-Specific Processes
- Effort
- Serious Engagement

These various definitions do not all equal rigorous work. There may be components of each of these in rigorous work, but standing alone, no one of these will push students to higher standards. Teachers need to be engaged in constructing shared definitions about the kinds of activities that are most likely to lead students to higher performance. For instance, a student told us, "In my math class, we just get one ditto after the next. My math teacher doesn't like the textbook, so he works up his own work sheets, and he gives us a million of them every day. If we get through all of them, we can pretty much get a good grade." And his friend concurred, "More often than not, I am more challenged by work load than by the quality of the ideas. Most of my classes would be challenging if they weren't so mundane. I get home late and spend more time thinking about prioritizing the load than thinking or doing things that require that I think." (p. 117)

Walter—the middle school kid...

Lest we be short sighted, there are dangers embedded in innovations too. The kids we followed figured out how their teachers felt about innovations and recognized that there was no agreement there either:

**Teachers' Beliefs about Innovation**

- Temporary and Impermanent
- Likely to decrease rigor
- Always better than what they had been doing before
Old hat

Necessary but hard to get right

Like new fashions—ever changing

Depending on what teachers believed about innovations, they might always be engaged in some change or another, or always rejecting change or carefully selecting and trying a new approach. One student described her teachers, "My team of teachers is always trying something new. They like experimenting, so they build new activities all the time. I've been with them for a long time, and they hardly ever approach something the same way twice. Mostly, they build big projects like Summer Fair Days, where we designed a Country Fair, cooked the food, set up stalls, calculated the expenses and the income, figured out what we'd spend the proceeds on. It was a lot of fun and not hard at all."

"Darn!" we thought. We were hoping that it would be hard. In the schools where faculty were linking rigor and innovation, we could see the benefits accrue to the kids. They did that by analyzing the work they were getting from kids. They asked themselves a series of important questions:

1. Is this innovation getting the kids to the level of skill and the kind of knowledge that we hoped?
2. How was the assignment given?
3. What instructional strategies did we use to get this across?
4. How did we check along the way to find out if the kids were getting what we hoped they would?
5. Would others—other teachers, the principal, parents—agree that this work is good enough?

So, what does this mean for Rob's and my class of 10 and eleven-year-olds? We've been asking ourselves these same questions. We've looked over the assignments and have been examining kids' work. We discovered that some of their work was not good enough, so, we sent it back, but with more explicit instructions about what we expect. Let me show you a few examples.

Truth is I do think that my growing awareness of the link between rigor and innovation is productive. I'm learning to match what I want for kids in terms of skill and knowledge to the innovations I choose to pursue. And you can help me figure out whether it is good enough. We hope to have our web page up and running in a month. One more note about innovation. The kids have been learning HTML, which is the language they need to translate their text into the computer. I'm still trying to figure out what it stands for and they have begun entering their data! It isn't always necessary that we have the expertise. Some innovations come so much easier to the young!
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