Lesson Observation and Tutoring Experience

With the current emphasis on teacher accountability and student achievement on standardized testing, it is no wonder that state standards heavily influence instruction, student activity, and assessment. These standards are a primary guide as I plan lessons using the Manchester College format. At the start of the school year, my cooperating teacher, a seven year veteran, sent home a letter to parents listing what would take place in her classroom that year; the first bullet stressed covering the state standards. When I asked her how much those academic standards factor into her planning, I naturally expected an elaborate and sharply focused answer. Her response, however, was rather surprising. She said the textbook is her sole guiding source as she plans instruction and assessment. This set the stage for my observation of a lesson she taught and my own personal experience assisting students.

The theme of the lesson I observed was finding equivalent fractions and reducing fractions to their simplest form. I could not find an eighth-grade standard that directly related to this topic, but I did notice standards that involved more complex manipulations of fractions. Therefore I could definitely see the necessity of the lesson. My teacher started with a brief look at some terminology. I believe this was a key component of the lesson; mathematics has a unique and extensive vocabulary that is often overlooked. When I took math courses in middle and high school, I do not remember ever reading the textbook. Instead, I progressed straight to the problems and tried to work them based on the text’s examples. This approach to the study of math destroys the connectedness that embodies it. When students perceive math as a group of distinct methods of handling numbers or variables, they fail to grasp the ways in which math permeates their lives.
One way to counter this calamity is emphasizing vocabulary and reading in the content. It allows math to come alive.

Following the vocabulary segment of the lesson, my teacher modeled an example of finding equivalent fractions. To find one of these fractions, she multiplied the numerator and denominator of the given fraction by the same number. To find the other equivalent fraction, she divided the numerator and denominator of the given fraction by a factor they had in common. As the students were working on the assignment towards the end of the period, it was amazing to me how they had latched onto the words “multiply” and “divide”. They came to a problem that asked them to find two equivalent fractions of seven-tenths. The first was no problem; they simply multiplied the numerator and denominator by two. To find the second, dividing is not the best strategy because seven and ten share no common factors; one could simply multiply the numerator and denominator by three. The students, however, were stuck on the idea of dividing by a common factor to find the second. I was asked by several students how to approach this problem; as soon as I said that dividing was not a necessary action when finding equivalent fractions, I received many puzzled looks. This is a testament to the authority the students see the teacher as having. It was remarkable to see new knowledge being constructed right before my eyes; the students received information that was slightly disorienting to the existing knowledge they had and made accommodations in order to shape new knowledge. A teacher must be mindful of the ways in which he or she can influence students’ learning through direct instruction.

Finally, an important concern was raised by my one-on-one interactions with students after they had been allowed to begin the homework. I had a student ask me for
help on a problem that required the utilization of a particular strategy in order to solve it.

After helping the student and leaving her to move onto another struggling student, I felt confident that I had explained the process in sufficient enough detail that she could handle the rest of the assignment. However, her hand was again in the air after only a minute or two; she was not sure how to attack the next problem. The setup and solution strategy were exactly like the previous problem we had just looked at together. These are the kind of students whom I fear the most. I have to understand that not everyone thinks just like I do. I feel considerably comfortable with my content; I hope that comfort does not exist to the extent that I do not understand why someone does not get something like I do. I want to be able to help everyone and not just those who already excel at math.