

Reflection on video-recorded lesson

Demographics

- 11-12th grade, 700 level (highest), Advanced Chemistry

Content

- Advanced Chemistry starts with quantum numbers, various trends on the periodic table, and a study on solids and liquids. Students begin in this unit, 3b, studying gases and their relationships with pressure, volume, temperature, and moles. Gas laws are applied mathematically in class and physically through this mini-activity on the video.
- The unit will conclude with lessons on Avagadro's Law, Dalton's Law of Partial Pressure, and the Ideal Gas law.
- The semester is wrapping up, but the students will learn solution chemistry in Unit 4. They will discover concepts such as solute, solvent, molarity, molality, and normality.

Reflection

The following lesson consisted of student's use of prior knowledge from class combined with practical scenarios from life. Following the review from the previous day, the mini-lab's had hands on activities were designed to actively involve students. This forced them to answer questions related to lessons previously taught on Boyle's Law, Charles's Law, and Gay-Lussac's Law. I chose to tape this lesson because I enjoy seeing students inquire about how the world works, and relate their knowledge to my chemistry class.

Previously, students had been working on how to rearrange the Combined Gas Law to solve for the unknown. In the beginning of the class, students came into the class with a pre-class on the board to start working on. The homework for the prior night was to finish a worksheet, in which they had to show their work to receive full credit. As the majority of the students worked on the pre-class, several students put their answers up on the board. This allowed me to check homework, take attendance, and closely monitor students who were struggling with the concepts. I interacted with students initially

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with a short opening to give them direction and get them motivated, which is always a challenge. After going over the homework and introducing the mini-lab, I allowed students to quietly engage in independent practice to review all formulas and constants and then introduce each station. During the mini-lab I interacted with students completing the activities, asking them questions, and probing with “why” questions. Their understanding was evident not only in their answers but also in overhearing their conversations. Lastly, to assess their knowledge, I went over the answers to the mini-lab and gave an exit quiz to make sure they understood the material covered in the previous day’s lesson. The evidence of student achievement came from the answers to individual questions during the mini-lab, answers to the provided worksheet, and the work displayed on the exit quiz.

Next time I complete this lesson, I wish that I would have allowed the students to follow instructions on the mini-lab with less guidance and more inquiry-based questions. Also, I thought the worksheet could be improved with deeper questions. In addition, the worksheets probably should have been collected to see if students were correct in their answers.

My philosophy of teaching was demonstrated in this less by allowing students to be actively involved in guided practice, actively involved in independent practice, and actively asking questions about the world around them. This lesson demonstrates that having a pre-class, having a review from the previous class period, conducting a mini-lab, and requiring students to complete an exit quiz forces the students to demonstrate their learning. I believe that the nature of science needs to be experienced by the students and relate to the world around them. I desire for students to be challenged and to prove their understanding to themselves.

After looking at the video tape, I noticed that there were several issues that can be addressed. **I wish that I had better classroom management** strategies to keep students on task and focused on the questions. Many side conversations prevented students from learning the material. Incentives, deadlines, or other motivators could have been used. Lastly, I noticed that as I answered questions, I openly gave students more information that they could have received on their own.