Increasing the Level of Intellectual Activity

I decided to look at a lesson I had planned that required students to do a project on the Periodic Table of the elements. Initially I was going to just have them create a Periodic Table of something of their choice. When I reviewed this however, I noticed that this did not require them to do as much intellectually as I wanted. I therefore decided that I would be modifying this lesson after reading through the article "Using Cognitive Strategies to Develop English Language Literacy" by Crandall as well as the rubric entitled "Am I raising Intellectual Demand" by Kennedy.

My first change was to improve the actual project. This was the foundation of the lesson so I began with that. Looking at Kennedy's Rubric in the section called Making Activities Productive, there was a section that said, "Students use complex reasoning or apply non-algorithmic thinking". This got me thinking about how to have them reasoning and applying information to the project. To do this I modified the project slightly to include more intellectual activity. Instead of having students simply make a Periodic Table of their choosing, but now I would have them actually explain why they organized their table the way they did. They would be applying information and complex reasoning in order to actually organize their table. I also included a worksheet that outlined the periodic trends and had them write a definition of the trends and then explain what their trend that corresponded was. This way they had to think about what a trend is and then apply that knowledge to a new and novel situation. Kennedy's Rubric also includes information on providing clear expectations. With this in mind I decided I would add a comprehensive rubric so students could see where the points would be coming from and see what I expected them to include. This way I not only defined the expectations, but I was clear about the expectations and they could check their work.

After modifying the actual assignment from the lesson I made some changes to the way I began the lesson. Initially I had class starting with a journal that just asked them to use a trend to solve a problem. After reading Crandall's article, I thought it would be best to start this assignment by "Building a Conceptual Framework". Thinking about the project, I realized that this would be a confusing project if I did not scaffold and build a framework for the information. We had covered trends in class, however we had not talked in depth about combining the information. Crandall suggested making graphic organizers for students so I thought this would be a much better journal than the journal I had planned. Instead of providing the graphic organizer I decided I would have students make their own graphic organizer to show the relationships between the periodic trends. This information would get them prepared to think more about trends and applying those trends.

I think that by modifying the lesson to include a graphic organizer to activate thinking and then modifying the project to have students apply knowledge to a new situation of their own choosing had students increase their level of intellectual activity during the class. They are using reasoning, applying their knowledge, and synthesizing all of this information together to form a new periodic table. I will now be able to see if they truly understand the concepts we discussed on the periodic table and periodic trends because they are applying what they know and making something new. So by both helping them to demonstrate knowledge and giving me a new way to assess their knowledge, I think adding to the level of intellectual activity will be beneficial overall.