Learning Log #1
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Inquiry experiment - Attractive Balloons - https://scienceworld.ca/resources/activities/attractive-balloons

I had my students help me with this experiment as we finished our unit on Electricity and Magnetism before the Christmas break and needed some review opportunities before starting our new Weather unit. I split my students up into 4 groups with a leader in each. I had two girl leaders and two boy leaders. Each group's leader was responsible for recording what went on in the experiments and participated in my final challenge/extension task.

In the first task, my students were asked to rub the balloons on their hair and pick up confetti paper pieces with the balloon. They found that the more they rubbed the balloons on their heads instead of vice versa, the more success they had. Many of the students with shorter hair had more success than those with longer hair. Other items picked up were dried lysol wipes and paper clips.

In the second task, my students were asked to hold the charged balloon under a stream of water. They were amazed at what they saw. We decided to change the temperature of the water to see if it made a difference. The colder water made a minimal difference (bent more), but it was not significant. We discussed humidity and moisture in the air, where if the air is more moist (summer), static electricity shocks are less likely to happen than in winter.

In the third task, we ran into a problem in that we were unable to finish the experiment. We were unable to have the pop can go very far down the hallway because there was a transition time in the school and students were in the hallway. We went back into the classroom, but the classroom is only 8m long and was quite humid due to being in it all day and no ventilation. My students were successful in having their pop cans go 0.5m, 0.65m, 1.2m and 1.4m.

To take the experimental process further, I challenged my students to rub the balloons on their heads for increments of 30 seconds, 1 minute, 1 minute 30 seconds, and 2 minutes. We wanted to see if rubbing the balloon on their head would allow the balloon to stick to the wall for a longer period of time. Our results were that no matter how long the balloon was rubbed on their head, the result was always the same: the length of time the balloon hung onto the wall was nearly the same, and students who had a short (not buzzcut)/medium length of hair were more successful in having their balloons hang onto the wall.

Inquiry-based learning was present in this activity in that it provided opportunities for the class to engage in questioning, changing various factors to try to achieve a different outcome, and questioned their original hypothesis. The students' observations, ideas, and feelings about the experiment dictated where we went with it, how we altered it, and generated a wealth of ideas about why we achieved the results we did. The experiments generated discussion about the importance of observation and not limiting a poor result to failing.

In this kind of activity, the school library learning commons could offer literature about static electricity, a space to complete the experiment, as well as provide opportunities to try and learn about other types of electricity. The school library learning commons could also be a place where students can complete makerspace activities to extend their hypotheses outside of the classroom or instructional time. The Teacher Librarian in the school library learning commons may also have other ideas how to enhance the activity or provide other opportunities for students.

My learning objectives in this course:

1. To understand how inquiry can be used in various subject areas outside of LA or Science. Often, I use inquiry in LA or Science classes, but I would like to extend my own learning to better integrate other subject areas.
2. To appreciate how inquiry models can be effective. I find that when I complete inquiry activities in my classroom, if the students do not latch onto the idea immediately, the project or activity becomes boring to them and the activity loses all power. I would like to understand what exactly makes an inquiry activity effective and if there is a model to use.
3. To better understand assessment in relation to inquiry. Some activities and assessments do not always turn out, but I often wonder if a student should be penalized if their experiment or project does not work out perfectly. No two projects are equal, but determining fairness is very difficult. I would like to know what others do that makes assessment both accurate and fair for all.