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ESCI Field Experience #1

Develop and use a non-paper and pencil activity
Use an interactive board (tri-fold)

Details about my Science Teaching:

The science lesson for the week was "What are some types of soils?" The standard that went with this lesson was to compare the similarities and differences of texture, particle size, and color of soils (clay, loam, or potting soil, and sand). My supporting teacher had her project-focus student come in on Monday and she taught the students about the different types of soils by reading the definitions in the book and they looked at a sample of potting soil. Since the HSP Science book includes humus, sand, silt, clay, and loam, I figured it would be beneficial for the students to get a chance to look and touch all types of soils. Then do an art activity comparing the different colors of soil with one another. For this activity, I collected water bottles for each student and they filled up their bottle with layers of the different colors of soil.

In preparing for this lesson, I contacted the Crops and Soils Department on campus and asked if I could get different types of soil for my 3rd grade class to have. The professor I got in touch with was David Radcliff and he was very excited to help me out. He and his graduate student gave me 10 different colors of soil, which included humus, sand, clay, and loam. They were not able to get me any silt because it was hard to find in Georgia, especially in the Athens area. They were able to give me 3 different kinds of clay and 4 different kinds of loam, but each kind of soil had a different color. So that's why I decided the art activity would be most beneficial for the students. They would be able to compare the different colors after doing this art activity. Furthermore, it supported the standard (mentioned above) because they were able to have hands-on experience at looking at the different colors one type of soil can be. For example, clay is very famous in Georgia, but not all clay was red or brown, the Soils College was able to give me yellowish and grayish clay also.

On the day of the lesson, I started by asking the students what they already knew about soil. The students knew the names of the soil and why each soil was different. They told me that Georgia Red clay was the most popular in Georgia and that silt was hard to find. They also told me that potting soil has dead animals and plants. I followed their answers by explaining to them that the same kind of soil can be different colors because of the amount of iron present in them. I told them the more iron in the soil, the redder it should be. I also told them that rocks are found in each type of soil because in their explanations of why each soil was different, they told me that soil was too small for your eyes to see, but I had to correct them and tell them that it was the ROCKS in the soils that are too small, not the soil itself.

Once we did a 5 minute review, the class went outside where the 10 types of soils were laid out on newspaper for them to touch and feel. The kids walked around for 10 minutes and I asked them questions about what are some differences they noticed between one soil and another. Since we were going to do an art activity focusing on the colors, I put the soil in groups of red, black, or tan (or something like that so it was easy for the students to really distinguish one color over another.) Then they had pictures they had to put up on a tri-fold that had the definition and name of the 5 different soils in their book. I wanted the students to be able to group the soils and see in one place (the tri-fold) the differences in color. We also talked about the texture and size of the soils. One student said that sand felt much different than clay or humus. Another student noticed that humus had small pieces of leaves and little twigs in it and that clay was very chunky. The students put the pictures on the board, I asked them to point out the different colors in each category of soil. I also had them tell me why one type of loam was redder than another, and why we didn't have any samples of silt to reinforce what I went over in the beginning. The kids were able to answer all these questions correctly.

What I learned about Science teaching and learning:

This lesson definitely taught me something new in elementary science teaching and learning. The water bottle activity to layer the different colors really showed me the importance of doing hands-on lessons. I wanted the students to have something to take home to show what they were learning in school besides bookwork and worksheets. The kids enjoyed making their bottles and it gave them a chance to play and touch with the soil more. I think it was very important for the students to have hands-on practice with soil. Since they were learning a whole week about it, I thought it was important for them have had the opportunity to familiarize their selves with soil and their differences.

This lesson taught me that it is very important for students in my class to get hands- on experience with whatever they are doing. For example, one student remembered a dead fly went in her eye after she touched the potting soil the day before. So in the middle of my lesson, she told me that potting soil has dead plants and animals in it and it is like humus. Even though, potting soil is not considered to be real soil, the connection that the student made between her experience while looking at it and what humus is like has helped her remembered a type of soil. Moreover, several children in the class were able to relate that I had so many samples of clay for them to look at because clay is the most common kind of soil found in the state of Georgia. These examples helped me understand the importance of doing interactive lessons with the students.

Furthermore, I did 30 of the 40 minutes of the science block outside with the students. They seemed really excited to be able to go outside for a lesson because after we reviewed the information in the classroom, they ran to the back door to go outside; Howard B. Stroud has common areas in between classrooms that are outside. The area had three picnic tables, so it was perfect for me to be able to set the soils on. After reading *Last Child in the Woods*, I really wanted to have activities that were outside. As a teacher, it is important to give the students the opportunity to move around and walk in a more open space than a classroom. The children should have a change of environment and after sitting down at the same desk all morning, it would be nice to have a change of scenery. As stated in *Last Child*, "Videophilia"- a shift from loving streams to loving screens" is happening to so many kids that they are not getting the time to be outside like they need to be. A lot of teachers are depending on the smart board and technology to teach the children about science and nature. Therefore, I am confident that teaching this soils lesson outside with real soil helped them connect more with the science concept.

Implications of what I've learned for future teaching:

Since I have been in the early childhood program a lot of my teachers talk about how some students cannot relate to the topic taught in class because he/she have no idea what is being talked about. I could have easily reviewed the types of soils and characteristics of the soil, then handed them a worksheet to match the soil with the definition. But I wanted to go the extra step and give all of my students the chance to see different kinds of soils. It was not hard for me to take the time out and talk with Dr. Radcliff, so it showed me that going into the community and using my resources can really help me make my lessons so much more authentic and exciting. I feel more confident in preparing a not so typical science lesson. I only remember doing hands-on activity in chemistry my junior year of high school and a lot of the lessons I have seen are always right out of the book. I am glad that I went outside of what I was used too (the textbook) and got in touch with my resources to create a more valuable learning experience for my 3rd grade students.

Another valuable experience I learned in doing this lesson is the level of class participation when the lesson is not in the textbook. During my lesson, the two EXC (special needs) students were fully participating and excited to make their layers of soil. Therefore, I think doing more hands-on activities will help my students with learning disabilities to feel more included in my lessons. For example, one of the EXC boys always falls asleep in class; however, while we were outside he was moving from table to table trying to feel the soil, he wanted to make sure our pictures were taped onto the tri-fold securely, and he passed out the water bottles to the class. I had never seen that student so on task and eager to participate until I did the soils lesson. Another EXC student that usually has a hard time doing his work could not stop touching the soil. He wasn't making a mess but just touching and playing with the soil. Each student was able to do make their own project and was free to do whatever they wanted. I think it is amazing to see how well the EXC students did with this lesson; they would blank out of lessons in class and I thought it was because they could not understand it, but this lesson gave my supporting teacher and me a different outlook on how these students learn. Once they had the opportunity to do their own thing, they really got involved and wanted to make the best layers of soil bottle. I was amazed at how well the overall class participated in the lesson. So my soils activity really taught me to go outside of the box with my lessons because it encourages a valuable learning opportunity and class participation.