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Anchor Essay
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Science Lesson Study

“Teachers who love teaching, teach children to love learning.”

— *Robert John Meehan*

On the 29th of March, this quote came alive. My freshmen LS 1001 peers and I went on a lesson study to Strawberry Point Elementary School to observe Mr. Danny Gasparini give an earth science lesson on air pressure. My presumptions for this lesson were minimal... I am not particularly fond of science and simply thought it was going to be some lecture-style lesson about some science stuff. But as soon as our class walked into Mr. Gasparini's room, we saw him already introducing the lesson in a very non-lecture style — the students were all gathered, engaged, sharing, and excited for the lesson of the day. Seeing all of this happen at once really got me excited for what was to come (which were some pretty fun science experiments). Mr. Gasparini really showed my peers and I, future teachers, how to give life to the *Teacher Performance Expectations*. In this lesson study, Mr. Gasparini nailed three different *TPE's* (Teacher Performance Expectation), integrated some 21st Century Skills, and displayed the concept of Democracy and Equity.

Engaging and Supporting All Students in Learning

This is the first *Teacher Performance Expectation* demonstrated by Mr. Gasparini. To demonstrate this *TPE*, Mr. Gasparini used two strategies. First, he wore a microphone that supported a student who has a hearing disability. He wore this silver, long, whistle-looking thing around his neck and at the end of the lesson I asked what it

was — in my fieldwork classroom, Ms. N wears a device around her neck as well that connects to speakers to support students with hearing disabilities so I wondered if he was doing the same — and he told me it was a microphone that connected to a student's hearing aid. By Mr. Gasparini using this device, he is allowing and supporting his student to have a fair opportunity for learning. And the second strategy he used for this *TPE* was by kinesthetically giving the lesson and directions. Most teachers, at least back in my elementary days (haha college has a way to make one feel old), would simply give oral directions or written directions and move on to step number one, but not Mr. Gasparini. As part of his lesson, the students were going to go outside to see some experiments and before they left Mr. Gasparini told them what was going to happen, demonstrated how they would be seated, and showed what they were going to do with their clipboards and iPads. He made sure to target his visual, auditory, and kinesthetic learners. From both of these strategies, the students were most definitely engaged and supported — this was shown by their level of enthusiasm and minimal questions aside from the science questions during the experiments. When I become an official teacher, I plan to incorporate these strategies in my own teaching... especially the microphone usage for students with hearing disabilities.

Creating and Maintaining Effective Environment for Student Learning

This is the second *Teacher Performance Expectation* demonstrated by Mr. Gasparini. To demonstrate this *TPE*, Mr. Gasparini used two strategies. First, he was being silly during his lesson. This may be seen as 'unprofessional' or a waste of time, but the amount of participation and excitement he got from the students through his jokes and science experiment failures helped him create an effective environment for

the students' learning. They were so intrigued and they paid close attention — you could tell through most of their correct and elaborate answers to all his questions. A key example of how Mr. Gasparini's being silly got the students motivated to continue learning was when he was doing an experiment — he placed a specific type of paper on top of a glass filled with water, flipped the glass, moved it over to the top of his head, and then the paper came off and the water spilled all over his hair. The students LOVED this... and he was able to ask some hypothetical questions plus get some really good answers from the students about why that happened and how he could prevent it from happening again. And the second strategy Mr. Gasparini used was simply using all the space he had. He took advantage of the inside space to give instruction, demonstrations, experiments, and create scientific posters. And the outside space for more experiments and iPad filming. Allowing the students to move from one space to another and letting them have some wiggle room maintained an effective environment that encouraged their focus on learning, since they were not simply stuck in one place for the entire lesson. Taking advantage of the indoor and outdoor space is definitely something I plan on doing when I become a teacher. I love having fun and being silly, so incorporating my own personality into my teaching methods the way Mr. Gasparini did is something I also intend on doing to enhance engagement and interest.

Pedagogy for Teaching Science

This is the third *Teacher Performance Expectation* demonstrated by Mr. Gasparini. Science can be a difficult subject for most teachers to have full focus, but Mr. Gasparini displayed this *TPE* fabulously. First, he physically demonstrated the experiments. He took the students outside and conducted the experiments instead of

showing them videos or just orally explaining them. He really engaged the students into being excited for the lesson and about science in general and created more engagement, focus, and interest. Secondly, he did not conduct the experiments and leave it at that — once he was all done being a scientist for the students, he got them into groups and had them add a variable to the experiment of their choice and come up with a group hypothesis as to what would happen. This allowed for higher thinking to evolve. Personally, I am the type of person that wants to see, do, and talk — especially to gain interest and motivation in topics or subjects I lack interest in — and I applaud Mr. Gasparini for executing his science lesson and approaching the pedagogy with effective strategies that created an ambiance of focus and interest — I could not tell who did or did not like science during his lesson, which is good to see.

Aside from flawlessly giving life to the *Teacher Performance Expectations*, Mr. Gasparini also incorporated the *21st Century Skills*, which are Collaboration, Critical Thinking, Creativity, and Communication, into his science lesson. The two most dominantly portrayed skills were communication and collaboration. Communication was shown through his constant oral and visual instruction. Whenever the students had questions, he would give a full answer. And collaboration was shown through whole group, small group, and individual work. The students had to either collaborate with others or with themselves at different parts of the lesson, which in turn helped create an effective environment for student learning.

In every classroom, school, and district there is a common goal to achieve true democracy and equity. This concept can sometimes present itself difficult to portray in a classroom setting, especially when one of the key roles a teacher has to presume is

decision-maker on the spot. Mr. Gasparini's lesson really nailed applying democracy and equity in two explicit strategies. One strategy was using a 'squishy' ball to be passed around for student sharing. He chose one student, a female, and threw the ball to her to start it off. Then it was her job to call out another name and pass it to the student. It went around about three times and it was to all females, but then Mr. Gasparini said something so sly yet so effective, "Let's switch it up." Honestly, how simple was that phrase? — Incredibly simple, then the student got the message and the ball was passed to a male. This strategy showed democracy and equity at the same time. The students were allowed to choose to whom they wanted to pass the ball too and Mr. Gasparini was making sure that the sharing was gender-equal. I really liked this simple strategy. It is also an efficient strategy because as the students are passing the ball around and sharing, Mr. Gasparini is assessing student learning, watching equity, and could be listening while transitioning to another part of a lesson or onto something completely different. I can definitely see myself using this strategy in a classroom of my own one day. The second strategy Mr. Gasparini used was technology. Every student had an iPad, whether they were rich or poor or white or black or brown or tall or short they all had an iPad to film the experiments with and to use. While the students were outside seeing the experiments, they were split into group A that sat in chairs and group B that stood behind the seated group. When it was group A's turn they were able to record the experiment on their iPad, and once they were done it would be group B's turn. This was a good way to allow all of them to film and be able to get a fair shot and not worry about iPads being in their way. When I am a teacher I hope all my students have access to technology, since it is a major part of the their world.

When the lesson was over and the students were dismissed, I honestly did not want to leave (well maybe just a little bit, because it was lunch time and In-N-Out is just around the corner from the school). Mr. Gasparini taught my peers and I a lot about how to give an efficient and effective science lesson. His personality showed completely and he was able to have the whole class focused and interested. It was clear that he loved to teach, and in turn his kids showed that they loved to learn. One day, I will look back at this lesson study and incorporate a few tricks and strategies that Mr. Gasparini used to enhance my teaching practices.