



## SEDIN Trainers / Teacher Recording

The SEDIN project is funded by the European Union and therefore it is necessary to present its implementation. Completing this sheet helps us to gather data on the application, but at the same time you help yourself to understand the Montessori Method and Creative Learning and how to best apply the methods. Thank you in advance for the detailed completion of the form after each session.

Date	9/03/2020	School / location	
Name	Case Study 3 (personal information not included in this public version)	Number of participants	22 students
Specialization		Age of participants	E' Class
Course content	Physics: 1st chapter MATERIAL BODIES		

The following questions are open-ended and ask you to freely record your thoughts, impressions and a subjective assessment of the process and its results.

1. *What did you plan to do with this teaching intervention and how well did you achieve your goal? Please explain your answer.*

The aim of this teaching intervention was for my students to collaborate and to realize that through cooperation among all in a class we can create the whole world. Specifically, children in roles of atoms and molecules are joined together, holding each other's hand, and making chemical compounds and material (eg, when 2 children-atoms of hydrogen, hold 1 child-atom of oxygen then they are making a molecule of water; and many of them together make seas and oceans)! All molecules play an important role in making material world, no matter how different they are from each other, they are important and necessary!

We achieved our goal to a great extent, as the students worked very well together, understanding the importance of their classmates in the world. In addition, by transforming through drama a relatively difficult part of Physics, they understood it more easily and permanently.

2. *How did you feel teaching this lesson to the group?*

*While teaching this lesson to my class team I felt very well and creative!*

*I was looking at my students as they were moving in space as molecules, atoms, compounds, etc. I was glad to see them "living" an "invisible" world in our eyes and revealing it in front of us, making it understandable to everyone!*

3. *How did the students respond to the activities / how did they participate / how did they behave? (please give examples)*

Always, when we introduce theater and dramatization techniques in our lesson, children show enthusiasm from the beginning and are very interested in participating in it! So even in this case they wanted to become "a part of the material world" and "create the world with their union"! Specifically, the students themselves had made, with cardboard mainly, the names of the atoms-molecules-compounds and were ready to stick them on their clothes and prepared on how to move in space (eg close together if they were solid body molecules or more sparse if was a gas body). They all took it seriously, carrying out their role, based of course on their knowledge.

4. *Describe in more detail how the students interacted with you.*

I first gave the children the necessary information about the lesson by telling a story about how some very small particles were able to create everything in the world, making sure the story was compatible with the scientific data and the terminology of the lesson.

In this first phase, the children listened carefully because they knew that they would then present the lesson. There were some questions and a little hesitation from 2 students, because this lesson described something we don't see in front of us and the terminology was not familiar. However, this was quickly overcome by simplifying the terms, so all students wanted to participate. Sometimes they looked at me to get confirmation, but that also decreased and, as the action progressed, they felt more and more confident about what they were doing.

Throughout the course interaction between us was very good and helped to make our bonds even greater.

5. *Describe in more detail how the students interacted with each other.*

Students have generally a good group dynamic. Such actions have greatly contributed to this. So they usually help each other get the best out of their role and we rarely have fights. In this particular action, which required even more cooperation, the students tried to make the respective groups quickly and undisturbed. If a molecule lost its way, they would go and grab it by the hand to create the right atom. And this was done after much work - and based on the educational contract of the class which we have agreed and says that we do not shout (eg EEEEEH, you !!! Come here!), but we go - without speaking - and bring it to our company. This was observed by all students.

And the students felt in practice the value and importance of each of their classmates - even without one of them we could not make the material!

6. *Did this lesson help improve the integration of individuals or groups of students? Please explain your answer.*

*This lesson helped a lot to improve the integration of students, because it required absolute cooperation between them. If they didn't make the necessary chemical compounds, they couldn't create anything! All the molecules of the material world, no matter how different they are from each other, are equally necessary for the creation of all solid, liquid and gaseous bodies that surround us. And that was the conclusion of the students themselves! They experienced it in practice! Also, because there were no special dialogues, this action*

*(more movement and fewer words - as in their presentation) was easy and accessible even for children who did not know our language well - I have a student who came to Greece in December and she still doesn't speak Greek well. She was very involved in this action and the children accepted her very well.*

*7. What would you do differently next time? What new knowledge did you gain with this teaching intervention?*

What I would do differently the next time: I would change the timing of the action.

We needed more time than I had originally estimated!

Because the concepts were unfamiliar to children - they were not in their daily vocabulary - we needed enough time for them to be fully understood by everyone - mainly using stories and pictures. Fortunately, as soon as this was over, the children were able to perform their roles very well - which was based on these concepts.

And then again, time was an issue, as the children wanted to continue this action by changing roles. Which of course we did - taking more time!

As new knowledge, I would like to note down here that even the most complex lessons can be taught through theatrical techniques and even have very good results in terms of learning and consolidating new material.

*8. Please record any other comments - what do you think the students have learned from the teaching intervention and give examples that confirm this learning.*

I find it remarkable how easily students can turn difficult school material into an enjoyable theatrical play. And how comfortable they can "get into their roles" that they hadn't even heard or seen before!

For example, quarks were presented as the smallest particles of material world (of which protons and neutrons are composed) with great comfort, although they had never heard of them before. Also, on their own initiative, they connected them with something familiar to remember - in this case with the frog. The children who played the quarks made the frogs that crawled - so they will remember it much better than a simple reference in the book.

It is also important to know how well they were aware of their body - which I believe was cultivated through such actions - so that when they were presenting small particles they were all concentrated together, and when they were presenting larger parts they were spread around. It is also impressive how harmoniously the students collaborated with each other, knowing that only this way could they create the material world, as well as how much they accepted each other with the peculiarities of each one (just like the students, the molecules were moving slowly and more constantly - eg the gas atoms). But they were all - and everyone - useful and necessary for the existence of the world!