FRA_Class_MagnetAttractionOrNot_NoS

Teacher Education Design Principle + code:	3. Teacher education should advance teachers' understandings about the nature of science and how scientists work, confronting stereotypical images of science and scientists.. **TE: NoS**
Specific Teacher Outcome(s):	3.2 Teachers should be able to recognize young children's capabilities to engage with processes associated with the evaluation as well as generation of ideas in science and mathematics, since these processes are also important for the development of learner creativity.
Factors linked with:	**AO: Social;** **LA: Connect;** **LA: Expl;** **P: R and R** **T: Ped;** **T: Sci**
Type of material (image – interview (int) – classroom extract (class):	Classroom extract (class)
Originating from:	
Country report :	D4.3 France
Case:	Case 1
Episode:	Magnet Attraction or Not
Teacher:	Ivette
Age Group:	3-4 and 4-5
Selected episode present in D4.4 Appendix	Yes

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Fostering children's reflection and comprehension of magnets' properties

Firstly, children work in small groups. Each child has a magnet. They have to categorize different objects in two groups: objects attracted or not by magnet. For that, each child has two boxes a green and a red one. They have to place objects attracted by magnet in the red boxes, and those which are not attracted in the green boxes.

Secondly, the teacher emphasizes the difficulty associated to ambiguous object such as the scissors which are attracted in one side (the side in iron), and not in the other side (the side in plastic).

Teacher (T): So, I have a look on what you have done the red container. The red containers are all at the same place, the green are also together. Nobody has said to me 'I don't know'… You did know, it sticks or it don't. **Ax** told me the scissors sticks *[**T** takes the scissors].* Ah! They are in the box where it doesn't stick!
A Child: I've tried and it didn't stick!
T: Ah... Come **Ax**, we will try, if we don't know *[**T** is sitting, near her is **Ax**].* I've heard many children who said the name of the object... No? Don't you know the object's name?
Children: No
T: Fé you told it! **Ma**?
Ma: A magnet
T: Yes! Magnet! I've heard many children who have said it!

The teacher and the children are still talking about the ambiguous object. Some children have already tested it and known that magnets stick on scissors. Other children have already tested it and known that magnets don't stick on scissors. The teacher tries to foster them to explain why scissors can stick or not. A child tries to explain that magnet sticks on iron, but because of language difficulties he takes time to express what he has in mind.

T: We can place it in both containers… So why in a side, it sticks and not on the other side? Yes, the red, what do you want to say **Ca?**
Ca: The red, because it is scissors.
T: Yes, it is scissors you are right, **Ma**?
Ma: Because it is big.
T: because it's big. **Ax**?
Ax: It doesn't stick because it only sticks on the green.
T: On the…? *[in French, glass, green, and iron have closed spelling]*

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Ax: Only on green, as green… you know, green
T: Wait, are you talking to me about glass *[**T** shows to the child a pot in glass]*
Ax: Yes, *[**Ax** scrubs his head]* no, in iron *[**Ax** shows the iron part of the scissors]*

Thirdly, the teacher and the group of children will organize collectively a common categorization of the objects on a big sheet of paper. This material will be used later in the week by the teacher to progress in the exploration of magnet's properties.

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