



Cap sur l'école inclusive
en Europe



Pedagogical sheet

Playing with Geometry

Section of the module /E

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Global definition/short description of the content:

This project aims at approaching Maths in an informal, interesting and appealing way using a storybook and a game and taking advantage of materials and contexts of children's every day life. The contents should be presented through games once they constitute a kind of challenge and at the same time they have a playful character therefore, keeping the children motivated for learning.

Use/area of application: this project should be in a kindergarten, with pre-school children. An heterogeneous group of 25 children aged 3 to six.

It is considered a useful project, once the Curricular Orientations for Pre-school Education approach the learning of Maths, namely Geometry by pre-school children and that visualisation and spatial orientation have to be worked at this age. So, we have to involve children in activities that imply the manipulation of materials so that they can create mental images, thus broadening their repertory. Geometry is one of the areas of Math where it is possible to use a playful learning because it is visual, intuitive and creative and through which we can help children develop positive ideas about Math from an early age

Principles and theoretical fundaments: this methodology derives from the Movement of the Modern School which builds itself through the action of the kindergarten teacher, who as consequence of her/his democratic training and of the social and moral development of the children she is going to work with,

assures their full participation in the management of the curriculum to be developed along the school year.

Children and teacher collaborate in the planning of the curricular activities to be developed, they are responsible for mutual aid while learning what comes from projects, research, and intervention as well as for their evaluation.

The pedagogical model will be developed through curricular activities of Pedagogical Differentiation, namely, curricular projects, suggested and approved by the group of children; curricular work with the participation of the group of children; cooperative organization and management of the project in the council of the children's group; existence of communication circuits to disseminate and share the results of the works and finally, autonomous work and individual monitoring whenever necessary.

Instruments:

For this project we will need:

- Computer, paper, markers of different colours;
- Cardboard, wood;
- Wood base, images of objects of the classroom;
- A map which has already been made by the children during the intervention, objects to hide and their picture to put on the map

Presentation of the Methodology:

During this project, children have all the freedom to interact with the other children and with the adults in the classroom (teacher/school staff). During the activities the children are organized in small groups, but each one of them works individually. They are supported but also given freedom to be active builders of the knowledge and to learn through action that is "to learn doing".

In the beginning, children must use and show the spatial notions they have by making drawings. For this, the children, in small groups, listen to a story in the computer about "The opposite". Then they are asked to remember and to draw or to say two opposite words and draw them (visual and hearing memory). In the big group, each child shares with the group what she has done, telling which opposite she had chosen to draw. The drawings are posted in the classroom. The teacher will analyse which spatial and topological relations are present in each drawing and how the organized the drawing on the paper. On next activity, the children should explore the most known geometrical figures (triangle, square, circle and rectangle), therefore they should build the "rooster game" with geometrical figures. For this, they start by pricking (fine motor skill) the geometrical figures and identifying them at the same time, they talk about them communicating mathematically. After they should paint them, working, this way, the motor visual coordination. They build

the tray of the game dividing it into 9 equal squares, previously marked to be painted. Each child keeps his “rooster game” and can play in pair promoting the mathematical reasoning when they establish strategies to win. The project continues its development with the building of the “Map of the Classroom”. Children are asked to close their eyes and imagine the room seen from above. Then each child is given the image of an object of the room seen from above. The child has to identify where that object is and put it on the correct place on the map. In this activity, the children can cooperate with the others, discussing whether the image of the object is on the right place and in case it isn’t where it should be put.

As final activity of the project, children will have to trace an image of an object on the map and find it in the classroom, this way they can recall spatial notions: above/below; right/left; in front/behind the doll (this is being put strategically in what concerns the objects).

Evaluation:

Students learn math and geometry concepts and gain autonomy while they learn how to cooperate with the others.