HOW I TEACH SHAPE USING GEOMETRIC SOLIDS

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My talk is about how I teach shape using Geometric solids. I have chosen to talk about this concept because I have found it to be a successful way of introducing three dimensional shapes such as cubes, cones, spheres and cylinders to the children in my class. Geometric solids prepare a child for geometry by allowing the child to compare the different three dimensional objects. It improves the child's concentration, co-ordination and independence. Using three dimensional shapes for sorting activities helps strengthen the child's problem-solving skills. I will show you how Geometric solids help develop language and how children learn to recognise and name the shapes. During the lesson you will notice how solids can also be used to develop the language of position and movement.

RESOURCES

- A basket/container with a set of 10 geometric solids (cube, cylinder, sphere, cone, ovoid, ellipsoid, triangular pyramid, square pyramid, triangular prism and rectangular prism)
- Geometric solid cards (pictures of solids)
- Pictures of everyday objects (dice, boxes, ball, marble etc)
- (Matching cards have coloured dots on back as a control of error)
- Mat
- Scrap materials (toilet rolls, boxes etc) to use for construction
- Wood glue

PROCEDURE

I sit on the floor, facing the child with the mat between us. I introduce the concept of two dimensional (flat shapes) and three dimensional (fat shapes) and we discuss shapes in our environment. I present the basket of geometric solids and take the sphere out of the basket. I ask the child to feel the shape of the sphere. I name the geometric solid 'sphere' and ask the child to repeat it. I ask the child to place the sphere in the left corner of the mat. I repeat this process with three other geometric solids requesting the solid be placed next to, in front of etc the previous solid.

Activity 1

Child works individually with the solids, feeling the shape and packing it out on the mat.

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Activity 2

Give the child a handkerchief to cover the basket. Child puts hand under the handkerchief and feels the solid. Child must then guess and name the solid before revealing the solid. This allows the names of the geometric solids to be reinforced.

Activity 3

Child matches geometric solid cards, picture cards to geometric solids. Control of error using the coloured dots at the back of the cards allows the child to check whether matching correctly.

Activity 4

Give the child a worksheet that gives instructions to build a model using the shapes/solids identified on the sheet. Child builds a model and describes and names the solids that were used.

Activity 5

Child uses scrap material (recycle) for a free choice construction and glues construction together.

CONCLUSION

I think that using these activities help refine the three dimensional sense and make the child aware of the solid shapes in our environment. The lesson was enjoyable and really got the child looking at the detail of the solids. The cards help create a visual impact when matched with the solids. I think an advantage of this type of lesson is that the activities are not teacher directed and the child is active in the learning process. A disadvantage might be if the class has many learners – time and space factor? I am fortunate to have a small class so there is the freedom of individual teaching.

REFERENCES

NHM Teaching File

Internet

NPDE assignment on Geometry

Montessori influence