

AN EXPERIENCE OF THE CONSTRUCTION OF PARTICULAR DIDACTICAL TOOLS TO LEARN MULTIPLICATION

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This research work arises from a didactical experience that took place at an Italian primary school in the years 2001/2002. It involved two classes of pupils (42 seven aged children) and focused on the learning of the multiplication as mathematical concept, and on the learning of multiplication table by heart. On the importance of learning the multiplication table by heart, see Zan (1998).

The didactical project was developed in two stages. The first stage, concerning activities in classroom, was mainly based on the construction of particular necklaces and special carpets, made by the pupils. The children worked together in little groups. By means of these didactical tools, made from poor materials (various sorts of cylindrical “pasta” colored by pupils), the multiplication was presented both as repeated addition (necklaces) and as arrangement in rows and columns (carpets).

The second stage consisted in the participation of the pupils to the mathematical meeting “The Mathematics of boys/girls: exchanges of experiences among boys/girls of the same age” that took place on April 2002 in Trieste (see Leder *et al.*, 2001; Zuccheri, 2002). In this meeting the pupils had to communicate to other boys/girls of their same age (or older or younger them) their own knowledge about multiplication. They had to work in co-operation to organize the presentation and to overcome the difficulties of using a mathematical language understandable for all the listeners.

In the development of this didactical experience we considered the following objectives of research:

- a) to observe if a practical activity using those didactical tools could make easier learning the concept of multiplication;
- b) to observe if such activities supported also the learning of the multiplication table by heart;
- c) to observe if the cooperative work among the children enabled them to better understand the concept of multiplication;
- d) to observe if the participation to the meeting promoted relation and communication abilities and consolidated the learning about multiplication.

References

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