

UNESCO PRINCIPLES AS A BASIS FOR MATHEMATIC EDUCATION

SEP- DGENAMDF- BENM

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Purposes and basis for the proposal: Our intention is to design environments for children to use the math they learn in the classroom for their lives, to learn it through their lives and during their whole lives; a mathematic knowledge that supports the upbringing/raising of integer human beings and improves the society's life quality.

For this reason, we take UNESCO principles as a basis, and we propose that the process to construct mathematic notions, to practice and apply them should be the basis for:

- Learn to be: Development of creativity, attitudes, values, conscious decision taking.
- Learn "to live together ":Enhance respect for learning styles diversity, intelligence, cultures, preferences, sex, perceptions,...as a guide to find common elements to make grow the unity.
- Learn to do and to learn: Development of skills of thinking, mathematics, designing plans, project participation, competitions.
- Learn to know: Construction of math notions departing from dialectic processes which suppose that learning is mediated , among other things, by the individual maturity level, social historic experience and technology; given through approximations; which is the product of individual interaction and social collaboration, and that is meaningful when gradually, the consciousness levels of reality increase while participating in environments with projects related to the knowledge of oneself, the family, the school, the place where one lives, the country, the world, the universe, the present, the past, the future.....combined with actions on didactic situations requiring descriptions of surroundings, solving problems, games, construction, organisation, research....(Vigotsky, Piaget, Freire, Papert).

The experience: Departing from the observations made with 20 children for 10 years where they were building the mathematic notions during their daily activities, related to their family-life and outside school; later, a test phase was carried out with 10 children for 3 years (1997- 1999) in which, the practice of values, attitudes and decisions-making were proposed, together with learning maths and using computers. Beside this we worked with 200 in service primary teachers (1998 – 2000) and 20 pre-service teachers from the Benemérita Escuela Nacional de Maestros (2000) to promote the study about UNESCO Principles as a synthesis of different theories of education philosophy, and important data was got on the human being's potentials, his creativity, attitude, will and responsibility in making decisions, the diversity of learning styles and the diversity of reactions over difficult situations, the skills and the learning foundations, based on which we designed didactic strategies as well as the creation of environments in which mathematic knowledge is integrated with learning to be, to "live together ", to do and to learn.

Produced materials and applications: To make concrete this proposal we have elaborated text books for basic school children with the sections Monthly Game (recreational exercise), For Thinking (skill development), Giving Opinion (respecting the diversity and recognising the unity), Deciding (decision making and attitude recognition); Suggestion on Didactic Planning in which the activities gather the concepts and procedures with skills, attention to diversity – unity, creativity, decision making, values and attitudes; CD with math games, courses and workshops designed for teachers and future teachers. A Web site has been set with the didactic planning.

Future actions: During the year 2001 we will keep working on didactic planning with in service and pre-service teachers in order to let them learn about the proposal and collect relevant feedback for evaluation.