

MATHEMATICAL DIDACTIC STRATEGIES SUPPORTED BY TECHNOLOGY

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Presentation: We suppose that mathematic learning is mediated by some specific technology coming from each historical cultural moment, and that now new technologies allows to build even the most complex knowledge, much easier, for which it is urgent that public schools use it in the classroom so as to achieve significant learning and not to increase the most cruel gap: the mental⁴ one. For this reason, at the Dirección General de Educación Normal y Actualización del Magisterio en el Distrito Federal we are carrying out the Proyecto Normal Siglo XXI, that amongst other questions, we are trying that pre-service elementary teachers, teachers trainers and in-service teachers improve the teaching / learning process with the help of technology. In this framework, during 2002 and 2003 we have proposed a work line so that future teachers and their trainers reflect about their teaching practice and from that, design teaching / learning mathematic strategies supported by technology, in a way that enriches the everyday task in the traditional or virtual classroom.

Methodology: Work is done individually, in a team or in a group using the presential modality or at a distance. We begin with the description of the teaching experience about some kind of content, and then, the revision of examples, the formulation of a thematic synthesis and conceptual organizers, all of this, by consulting different sources of information and collaborating with others, so as to integrate what has been learnt with actual personal experience which becomes richer with new questions and specific proposals. Managing the actions is by means of Virtual Profe software of which the consulting materials and those that are produced are presented in a virtual campus where follow up is given, an interactions analysis of advisor/participant, participant/participant, participant/technology, furthermore an discourse analysis and proposals.

Content: Work is carried out in three lines: I. Mathematical learning environments, II. Types of teaching/learning strategies and III. Design of mathematical didactic strategies supported by technology.

Experience: A pilot phase with teachers trainers was carried out from November 2002 to February 2003 in order to test the activities and the information platform, strategies concerning conceptual maps for the solution of equations were tested as well as others using the independent software cmaptool (Concept map tools), the software design strategy for different areas of education was used, amongst those, mathematic and art so as to support the development of mathematic thinking skills.

General comments: Next April 2003 we will give an on-line course, “Didactic Strategies Supported by Technology” for pre-service teachers and teachers trainers; the production of prototype strategies as well as the research about the integration of technology in teaching– learning mathematics in teachers trainers schools (ESCUELAS NORMALES) and their pedagogical laboratories will be systematized; coupled with project Normal Siglo XXI.

⁴ MIT. PAPERT, Seymour, RESNIK, Michel (2001)