

1023-Z1-396

**Jerome S. Epstein\*** (jepstein@poly.edu), Mathematics Department, Polytechnic University, 6 Metrotech Center, Brooklyn, NY 11201. *The Integrated Laboratory Program – Guided Discovery in the Education of Teachers.*

Under NSF grant(1980), a program of cognitive development in integrated math and physical science was designed and tested. It is now in use for training elementary and middle school teachers in a partnership of Polytechnic University and NYC District 21. The program has run for two years. We find some teachers know basic math well and use the program to experience a guided-discovery program in practice. One cannot learn guided-discovery through lectures, one must experience it as a student. We have also teachers who learn the basic meaning of mathematics from the fourth grade level where these teachers actually are.

The program is entirely laboratory, no lectures. It goes to where the teachers really are, not where we wish they were nor where they are supposed to be. It is VERY demanding, About 20% are not able to pass, at least on the first try. We require a great deal of writing, which is critical. If teachers cannot verbalize how a physical situation relates to a quantitative concept, they cannot teach it successfully. The program is specifically designed for teachers who must use research-based curricula. Nearly all when they come are utterly unable to do this. The program will be described in as much detail as time allows. (Received September 11, 2006)