

A DNR Approach to Training Middle and High School Teachers in Math and Science.

Harel developed a *DNR* approach to training teachers in mathematics. Here *D* stands for duality, *N* for necessity, and *R* stands for repeated reasoning. At the University of California, San Diego (UCSD), we have used this approach to develop minors in Math-Education and Science-Education which are jointly offered by the Division of Physical Sciences and the Department of Educational Studies. These minors are part of the Cal-Teach program at UCSD which is a University of California systemwide program to train middle and high school science and math teachers. In this talk, I will introduce the DNR-approach and discuss the Cal-Teach program at UCSD.

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