
Berliner provides commentary on recent acts of Congress (Dept of Ed., National Resource Council, NCLB), equating “evidence-based practices” and “scientific research” with randomized experiments. Questions whether science means same thing to everyone, and whether recognize distinctions btw educational sciences and other sciences.

I. Definitions of Science
   a. Belief – “The belief in the ignorance of authority”
   b. Behavior/orientation – “unrestricted questioning”
   c. NOT method but ethic – “doing their damndest with their minds”
   d. By solely emphasizing randomized experiments, confuse methods with goals of science

II. Hard and Soft Science: A Flawed Dichotomy (i.e., Unique nature of ed research)
   a. Flawed dichotomy
      i. Traditional dichotomy
         1. Hard sciences = physics, chemistry, geology, etc.
         2. Soft sciences = social science, and especially educational science
      ii. “Actual” dichotomy
         1. Easy-to-do – deal with regularities that generalize across context; carefully controlled conditions
         2. Hard-to-do – deal with particular problems embedded in local, uncontrolled conditions
   b. The power of contexts
      i. Difficulty of understanding, predicting, and controlling effects across contexts
      ii. Qualitative inquiry emphasizes knowledge of the particular
   c. The ubiquity of interactions
      i. Understanding teaching involves 10th or 15th order interactions
      ii. Directionality never clear
      iii. Mean trends w/ significant variability
      iv. Unclear mechanisms (dynamic, equifinality, multifinality, heterotypic continuity, homotypic continuity)
   d. Decade by findings interactions
      i. Mechanisms
         1. Proximal, distal, phylogenetic, evolutionary contexts
         2. Effect (main, interactive, reciprocal, bidirectional)
         3. Moderators (additive, multiplicative, logarithmic)
         4. Conditions
         5. Individual differences

III. Conclusion
   a. Science = habit of systematic questioning, analyzing, argument, discussion ~ constructive controversy
   b. Educational Science