

## Scientifically -Based Research

A proposal must show how scientifically based research supports the proposed project.

1. Proposals must show scientifically based research supporting at least one major component of its plan of action.
  - Systematic and objective procedures
  - Observations or experimentation
  - Hypotheses testing
  - Data from multiple observations and measurements related to other studies
  - Acceptance by a peer reviewed journal
  - Details sufficient for replication or offer a basis to build on findings.
  - Proposals that are based on nationally known resources such as:

Borko,H. (2004), Professional development and teacher learning: Mapping the terrain. *Educational Researcher* 33(8), 3-15.

Darling-Hammond, L., & Youngs, P. (2002). Defining “Highly qualified teachers”: What does “scientifically –based research” actually tell us? *Educational Researcher*, 31(9), 13-25.

Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal*, 38, 915-945.

Ingvarson, L., Meiers, M., & Beavis, A. (2005). Factors affecting the impact of professional development programs on teachers’ knowledge, practice, student outcomes and efficacy. *Education Policy Analysis Archives*, 10 (13), 1-26.

Loucks-Horsley, S., Love, N., Stiles, K. E., Mundry, S., Hewson, P. W. (2003). *Designing professional development for teachers of science and mathematics* ( 2<sup>nd</sup> ed.). Thousand Oaks, CA: Corwin Press, Inc.

Margolin J., & Buchler, B. (2004). *Critical issue: Using scientifically based research to guide educational decisions*. Chicago: North Central Regional Educational Laboratories. Available at: <http://www.ncrel.org/sdrs/areas/issues/envrnmnt/go/go900.htm>

Milke Family Foundation. (2001) *How teaching matters: Bringing the classroom back into discussions of teacher quality*. Princeton, NJ: ETS. Available at: <http://www.ets.org/research/pic>