CME PROJECT

Habits of Mind
The Fundamental Organizing Principle of the CME Project

As suggested in the Program Overview, the Habits of Mind is fundamental to development of the CME Project.

The widespread utility and effectiveness of mathematics come not just from mastering specific skills, topics, and techniques, but more important, from developing the ways of thinking—the habits of mind—used to create the results.

A curriculum organized around habits of mind tries to close the gap between what the users and makers of mathematics say and what they do.CME is such a curriculum. It lets students in on the process of creating, inventing, conjecturing, and experimenting. It lets them experience what goes on behind the study door, before new results are polished and presented. It encourages false starts, calculations, experiments, and explaining special cases. Students develop the habit of reducing things to lemmas for which they have no proofs, and of suspending work on these lemmas and on other details until they see if assuming the lemmas are true will help. It helps students look for logical and heuristic connections between new ideas and old ones.

The Common Core State Standards for Mathematics adopts a very similar view towards school mathematics. In fact, the paper cited below* is listed in the Common Core as one of the works consulted by the writers. The influence of the ``habits of mind approach'' is especially prominent in Common Core's Standards for Mathematical Practice—some of the standards are almost identical to the habits of mind that are used as CME's fundamental organizing principle, and some of the examples used in Common Core's description of the standards for mathematical practice are identical to examples used in CME.

•Cuoco, A., Goldenberg, E. P., Mark, J. (1996). "Habits of mind: An organizing principle for mathematics curricula." *Journal of Mathematical Behavior*, 15, 375-402.

For more information on the Habits of Mind, see the *CME Implementation Guide* found in the Supporting Materials booklet included in this submission.