

**THE EXPLORATORIUM'S
INSTITUTE FOR INQUIRY
(1996-2000)**

FOUR CORNERSTONE CLAIMS

EXECUTIVE SUMMARY

The National Science Foundation (NSF) has invested in the Exploratorium's Institute for Inquiry (IFI) in order to develop a national center that can further the role of inquiry in elementary science education. The Institute for Inquiry's fundamental change strategy is to use its relatively limited resources to strengthen — and add value to — existing elementary science education reform efforts. To do this, IFI seeks to design programs, materials and tools that will empower the leadership of local elementary science education reform projects.

More specifically, IFI programs and tools are designed for those individuals who are responsible for professional development at a district level. The Institute provides these strategically-placed leaders with workshops, seminars and institutes centered on inquiry. They also provide these science leaders with access to professional development tools and strategies, publications, and resources — all of which are directed toward helping people understand inquiry and helping them to teach science inquiry to others.

Inverness Research is an independent educational research and evaluation group which has served as the evaluator to the Institute for Inquiry and its antecedent programs for almost two decades. For the purposes of this summary evaluation report we at Inverness Research have thought about our work as a kind of audit of the NSF investment made in IFI. IFI makes the argument to NSF (and to other funders) that their investment in the Institute is a sound one.

IFI's argument rests on four cornerstone "claims" that the program has made and has worked to achieve.

The claims are:

- 1) The Institute for Inquiry is able to create and offer very high quality professional development programs and tools.
- 2) IFI professional development programs and curriculum tools are valued by and benefit key reform leaders in multiple and important ways — with the end result that these leaders are empowered to improve their local elementary science reform efforts.
- 3) IFI is able to serve directly hundreds of key leaders of elementary science education reform efforts. These leaders, in turn, through an important “multiplier effect,” then are able to help thousands of elementary school teachers across the country improve their science teaching.
- 4) IFI makes a significant and visible difference. That is, the reform projects and districts that IFI works with are clearly distinguishable from otherwise similar districts and projects.

This evaluation report summarizes briefly the evidence we have gathered and the conclusions we have drawn around each of the above four “cornerstone claims.” These claims underlie the *raison d’être* of the program and provide justification for the investment that is made by NSF and others in its work.

In studying these claims, we have learned about the quality and qualities of IFI professional development based not only on our own observations, but also on those of other independent evaluators and on participants’ reports. Second, we have learned about the extent to which and the ways in which participants benefit from their IFI experiences, and how they have used what they learned to improve their own local professional development activities. Third, we have documented how many people and projects IFI has served, how frequently, and for how long. Finally, we have conducted a rigorous triple blind study that documents the ways in which the projects IFI works with gain capacities that make them distinguishable from other similar reform efforts in science education.

The results of all this work suggest that IFI is an investment in educational reform that is highly leveraged. That is, the work of IFI is intended to “add value” to existing reform efforts, and thus its work influences many thousands of teachers and students. In this report we present an array of evidence that bolsters the case that IFI does, in fact, assist many different elementary science education reform initiatives in improving their work. Drawing on the unique character and strengths of the Exploratorium, and on their own history of over two decades of experience teaching inquiry to teachers, the

Institute for Inquiry is able to assist many existing elementary science education reform efforts do a better job of helping teachers understand and pursue an inquiry approach in their classrooms. We think that there is solid evidence to show that the contribution of IFI in the area of inquiry to each of these efforts is needed, appreciated and utilized in a way that could ultimately benefit thousands of teachers and students.