

Making Improvements

INFORMATION BRIEF:

Developing and using good evaluation questions

A good set of evaluation questions will serve to guide your data gathering so that you obtain the information that is important to you, your stakeholders, and funders. Both formative and summative evaluation questions can be developed once you are clear about the goals and objectives of your project, and have determined the activities that will support those objectives. Formative evaluation questions generally measure the implementation of a project and provide ongoing information that helps the project improve along the way. Summative evaluation questions address the outcomes of the project work.

Through the No Child Left Behind legislation, school and district practitioners are being asked to become more involved in the evaluation of the effectiveness of their schools' efforts and progress. Many practitioners are short on time, funding, and evaluation experience. However, educators can maximize their learning from this work by building their evaluation around clearly articulated evaluation questions.

The critical guidance for evaluation work, just as in school-based action research, is identification, use and reflection on essential questions. These questions drive the learning—and evaluation is about learning. For example:

- *learning* about how students and teachers are using technology,
- *learning* what kinds of professional development and support are making a difference in classroom practice,
- *learning* how the infusion of technology is changing student approaches to learning, characteristics of student products, and student achievement in curricular areas.

As practitioners engage in evaluation work, whether involved in a formal evaluation--perhaps supporting the work of outside evaluators--or undertaking an informal examination of a school initiative, they need to consider the following aspects of evaluation questions.

Question Identification. *Identify the over-arching questions that you want to answer and why.* First of all, what do you and the people in your school want to learn from this evaluation work? If you are working with grant funds, what do the funders want to learn? For example, if your school or district has received a grant to engage faculty, students, and community members to use a variety of technologies to enhance science and mathematics learning through a community-based environmental study, what would you want to learn from your evaluation efforts? On what are you required to report? Some of your evaluation questions might be:

- How has the funding from the grant actually been used? What training was provided to students and faculty in using the various technologies? What was the

perceived quality of the training? How many students, faculty, and community members were involved in the training?

- How did students and faculty use technologies in the environmental study? What areas of mathematics did students explore? To what extent did students engage in mathematics and science inquiry? What role did technology play in this inquiry?
- What mathematical concepts or skills did students gain through this project? To what extent did students demonstrate mathematics and science inquiry skills?
- As this program is instituted and continued, are there notable increases in the percent of students meeting grade level appropriate technology standards? Is there improvement in student achievement in the areas of mathematics focused upon in the project?
- How have student, faculty, and community attitudes changed through this project, e.g., attitudes toward mathematics and science, the use of technology, or the environment?

Identifying and prioritizing these questions is the first step toward meaningful evaluation and essential learning for your school.

Matching of Methods to Questions. *It is essential to remember that the identification of evaluation questions dictates the choice of evaluation methods.* Practitioners need to ensure that the data gathering methods used will result in answers to the identified questions. For example:

- Using methods such as questionnaires, interviews, and focus groups makes perfect sense when you wish to determine changes in attitudes, e.g., attitudes toward technology use.
- However, in order to gain useful data about the use of technologies, or the engagement of students in mathematics and science inquiry, classroom observations become the essential method, with interviews or questionnaires providing additional information.
- Although teacher interviews may give some insights into student learning and changes in student achievement of technology standards, an analysis of student products will more directly answer such an evaluation question.
- If the development of certain mathematics learning has been targeted within this project, an appropriate method may be the tracking of changes over time in teacher-made assessments or selected sections of standardized tests.

It is essential to choose methods for your evaluation that will yield appropriate data for answering your top priority questions.

Reflections on Evaluation Questions. *Finally, it is critical, when the data are in and analyzed, to return to the evaluation questions and the results in order to determine the implications for your future work.* For instance, perhaps you found that although the quality and reach of the technology-related professional development was excellent, that too much time elapsed between that learning and the actual use of the technology in the environmental study, necessitating wasted time and energy on additional training. Or

perhaps, although use of graphing calculators was to be an essential component of the environmental project, your classroom observations indicated negligible use. What if after three years of similar project work, the targeted areas for improvement in mathematics achievement showed no improvement? These findings would certainly lead you to strategic changes in your work.