

LSC Core Update

FEATURE

Professional Development

While all of the LSC projects are aimed at improving science and/or mathematics instruction, and all focus on teacher professional development as a key, the projects vary considerably in their reform strategies.

Diversity of Strategies

Projects vary in how and when they work with their targeted teachers. Some projects are working with all of their targeted teachers throughout the grant period while others are focusing on a subset of teachers early in the grant. Some projects conduct most of their professional development activities in the summer and others in the academic year.

The professional development activities among projects vary considerably in their approach and design. Many projects are preparing teacher leaders, who in turn work with other teachers in their districts. Some projects work heavily at the school level, while others draw teachers from across the district for most of their activities. Some have implemented peer coaching systems, while others have created teacher study groups.

Selecting Sessions for Core Evaluation Observations

Knowledge of the broad context and overall professional development strategies is important in both the design of data collection activities and the assessment of the overall quality

of the professional development program. With all of this diversity, and because projects may well modify their professional development plans based on their experiences, it would be difficult for the core evaluation to include a formula for selecting professional development sessions for observations.

Rather, evaluators are asked to confer with their PIs about the professional development plans and decide together which kinds of "sessions" should be observed to best represent that project's range and focus of professional development activities.

Note that the core evaluation requires that the evaluator observe a minimum of five sessions on five different days during the period of September 1, 1996 through August 31, 1997 and complete the Professional Development Observation Protocols either on the Web or on scannable forms requested from HRI.

In projects which cycle different groups of teachers through a given set of activities, five observations preceded by interviews with the professional development instructor/facilitator may suffice.

In other projects, especially those with diverse activities, the evaluator will need to observe additional sessions (whether or not s/he completes the core evaluation observation protocols for the "extra" sessions) in order to make sound judgments of the quality of the professional development overall.

Additional Data Sources

At the same time, the evaluator will have data sources other than their observations to help in assessing the

quality of the professional development. For example, interviews with participating teachers will provide information about the extent to which the professional development addresses teachers' needs and is helping teachers apply what they are learning in their classrooms.

Similarly, teacher questionnaire responses will provide evidence about the character of the professional development culture as well as the quality of the activities.

Evaluating the Quality of LSC Professional Development

Data from the observations of selected activities and the additional data sources are pulled together to assess the overall quality of the project's professional development.

While similar components are examined in rating individual activities and the overall professional development program, there are some differences in how evaluators interpret what they find in each of these contexts. For example, an individual session might focus on engaging teachers in an inquiry-based task to enhance their understanding of the purpose, process, and techniques involved in that strategy, and not include much attention to classroom applications or modifications to accommodate students' differences in learning styles.

While limited attention to those issues may well be appropriate in the context of a single session, it would be problematic if classroom applications and issues of equity were not addressed at all in the course of subsequent activities. Overall ratings need to reflect the effectiveness of the entire scope of professional development activities, and the extent to which the cumulative

experiences of participants are reflective of best practice in professional development.

FYI

District Policies

Cohort 1 and 2 evaluators were recently asked to provide information about the alignment of district policies they had omitted from their reports (choosing the "don't know" option). The rating materials distributed by HRI last fall unfortunately had a "don't know" option, which apparently gave the impression that this area was optional; some forms were missing a third or more of the requested data.

NSF intends the LSCs to be systemic initiatives, not just professional development, so the PI has to know what the incentives and barriers are in order to plan a reform strategy, and the evaluation has to address the extent to which the policy context is supporting the LSC reforms.

We therefore suggest that the lead evaluators: (1) review the district policy inventories; (2) have a conversation with the PIs about the extent to which various elements of policy are facilitating or impeding reform; and (3) use that information along with their own knowledge of the district context to complete the forms as part of the annual evaluation report process.

While the current plan is to wait to have districts update the policy inventories until Year 4 of their LSC, NSF expects the PIs to keep close tabs on relevant policies as they plan their reform strategies, and therefore the PIs should be good data sources for the evaluators each year.

Annual LSC Core Evaluation Requirements

- Professional Development Observations (5-8 per year)
- Teacher Questionnaires (300 if one subject; 450 if two subjects)
- Principal Questionnaires (population)
- Classroom Observations (10 per subject)
- Individual Teacher Interviews (10; not conducted baseline data collection year)

All data collection activities are conducted March-May annually, except professional development observations which are conducted throughout the data collection year (September 1 through August 31).

Project evaluators are responsible for reporting these data to HRI each fall for inclusion in the annual Cross-Site Report prepared by HRI.

A number of PIs and evaluators have asked whether they need to secure separate approval for the core evaluation data collection at their sites. The answer is that each project should follow the institutional procedures in force at their site. Often that involves providing a review committee with copies of the instruments and describing why the data are needed, who will provide them and how often, how long it will take, and how you will ensure that confidentiality is maintained.

To avoid having a review committee ask you to revise the core evaluation instruments, it's probably a good idea to note that these forms have already been approved by OMB and are being used to aggregate data across multiple projects nationally.

Please note that some school districts have review procedures only for forms to be administered by persons external to the district; they may or may not consider the LSC "external." It is the PI's responsibility to make sure that their project complies with the data collection regulations of their home institutions and the school district(s).

SOMETHING NEW

Research on Human Subjects

Many organizations, including most colleges and universities, have instituted procedures to protect the rights of people involved in research projects.

You may have noticed an OMB form approval number on the LSC questionnaires; this signifies that the federal Office of Management and Budget reviewed them and was satisfied that the data collection was necessary, had adequate confidentiality safeguards, and did not include inappropriate questions.

Extending the Core

This year, HRI is piloting the collection of classroom artifacts focusing on student assessment. Guidelines for classroom artifact collection (Tab 8 in the Core Evaluation Manual) are still under development and are not a required component of the core evaluation.

Thank you to those who volunteered to test this data collection activity.

Classroom Artifact Collection

Five projects have been funded to pilot classroom artifact collection:

Bozeman, MT: *Keystone* (Myra Miller, PI)

Fullerton, CA: *SUMS* (David Pagni, PI)

National City, CA: *UCSD P-Test* (Melanie Dean, PI)

Providence, RI: *KITES* (MacGregor Kniseley, PI)

Tempe, AZ: *AZ IMP²* (Nora Ramirez, PI)

CORE EVALUATION Q&A

Using Core Instruments

Send us your questions about the LSC core evaluation system. Any questions of general interest to the LSC community will be answered in this newsletter.

Q. We would like to use the LSC Classroom Observation Protocol as a professional development tool for helping teachers and principals better understand standards-based instruction. Is this allowed?

A. We encourage projects to use the LSC core evaluation instruments for purposes beyond the core evaluation data collection requirements. Permission is granted for the use of LSC core evaluation data collection instruments, with appropriate attribution, for other educational and research purposes, e.g., professional development of teacher leaders. Instruments may be photocopied.

Q. Our LSC project has been providing staff development for two years now. When conducting teacher interviews for the core evaluation, should I ask teachers to focus on the professional development they participated in this past year, or can they refer to all of the professional development they have participated in with our project? Also, what does "alignment" refer to on the LSC Teacher Interview Summary (Item 3.a.)?

A. Teachers should be asked to comment on their entire experience with the LSC project's staff development activities. Interviewers may

choose to probe teachers about their more recent experiences if they believe the responses might differ.

Item 3.a. on the Teacher Interview Summary refers to the extent of alignment of teacher attitudes and classroom practice with the national standards. Interviewers should base judgments for all ratings on current standards for exemplary practice. Refer to the LSC data collection matrix and to the following documents for background: NCTM's *Curriculum and Evaluation Standards* (1989), *Professional Teaching Standards* (1991), *Assessment Standards* (1995), and NRC's *National Science Education Standards* (1995).

Q. We have just received LSC funding and are collecting baseline data this spring. Some of the questions on the teacher and principal questionnaire refer to the LSC professional development. Since we haven't started offering professional development yet, can we tell people to skip these questions?

A. Yes, projects that have not yet begun staff development activities can instruct teachers to skip Section C (LSC Professional Development) on the LSC Teacher Questionnaire. However, if your project has identified lead teachers, they should fill in the question asking if they are a lead teacher. Similarly, principals in new projects can skip item 6 on the LSC Principal Questionnaire.

Q. Our LSC project focuses on science. When items on the LSC Principal Questionnaire ask for responses regarding both science and mathematics, can we tell our principals to fill in only the science section?

A. No, all principals should be asked to respond to the principal questionnaire items for both science and mathematics. One of the advantages of the core evaluation is that it provides data to address a wealth of research questions.

For example, NSF is interested in finding out how the LSC impacts the context for science and mathematics education, including principal attitudes

and beliefs as well as school policies and practices. Asking about both science and mathematics provides an opportunity to compare the reform trajectories in science over a five-year period between LSC schools which are (1) focusing on both subjects, (2) focusing solely on science, and (3) focusing solely on mathematics.

If we were to find, for example, that schools in science-only projects make more substantial improvements in policies and practice in science than do either math or science/math projects, then NSF might decide to fund projects that focus on only one subject at a time. Conversely, if focusing on two subjects simultaneously produced synergistic effects, NSF might decide to solicit more science/mathematics projects.

Q. We administered teacher questionnaires to the random sample that HRI provided. It turned out that three out of the 300 sampled teachers were on maternity leave and one retired last month. What should we do with the questionnaires for these teachers?

A. It's not necessary to select additional teachers to fill out questionnaires that could not be administered for reasons such as maternity leave, retirements, etc. Please keep this information on file. In the fall, when HRI provides lead evaluators with guidelines for their core evaluation report, we will also provide a form asking specifically about questionnaire response rates. That form will have a space for recording any modifications to the sample size due to ineligibility of teachers in the sampling frame.

HRI REQUEST

Professional Development Videos

As you know, the observer training sessions conducted in February and March of this year focused on

classroom observations. NSF would like HRI to focus on professional development observation training next year.

If you know of videotapes that might be useful stimuli for discussions among PIs and evaluators, please let us know.

Extra points (and possibly extra dollars!) go to projects that are willing to videotape one or two of their own professional development sessions for this purpose.



Dates to Remember

- 03/01–** LSC Core Eval Spring Data
05/31/97: Collection Activities
- 06/20/97:** Completed questionnaires due at HRI for processing
- 08/31/97:** HRI sends questionnaire results to PI and evaluator
- 08/31/97:** End of 1996-97 core evaluation data collection year
- 10/01/97:** Evaluator sends evaluation report to PI for feedback
- 10/15/97:** Evaluator sends evaluation report to HRI
- 11/15/97:** PI sends progress report to NSF with copy of evaluation report

HRI REQUESTS & REMINDERS

Please Note

The core evaluation includes 10 classroom observations each year (for most projects). The pre-and post-observation interviews provide essential information about the purposes of the observed lesson and where it fits in the instructional sequence. PIs should make sure observers are familiar with the curriculum the project is implementing so they will be alert to evidence of effective/ineffective implementation.

HRI has developed an annotated version of the LSC Classroom Observation Protocol which provides guidance on the meaning of various indicators and other parts of the form. The annotated protocol is available on request.

A list of sources for videos used at observation training this spring is available on request from HRI.

NSF requires an 80 percent response rate on LSC teacher questionnaires. Let HRI know if you need additional questionnaires to follow up with non-respondents.

Please ship completed teacher and principal questionnaires (in a single box) to HRI for processing by **June 20, 1997**.

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