

Chapter Two

Participation in LSC Activities

One of the distinguishing characteristics of the LSC projects is that they are responsible for serving all of the teachers who teach the targeted subject and grade range, rather than only those who volunteer to participate. This chapter presents data on the extent of teacher and school involvement in LSC activities, and examines the extent to which these participants reflect the entire targeted population of the LSC projects.

Teacher Involvement in LSC Professional Development

As noted earlier, teacher questionnaires were administered to a random sample of all targeted teachers in each project, whether or not they had already participated in LSC professional development. Based on information provided by these teachers, as of the spring of 1997 approximately 24,000 of the 40,000 targeted teachers in Cohorts 1, 2, and 3 had participated in LSC professional development. Figure 5 shows the extent of participation of teachers in each cohort.

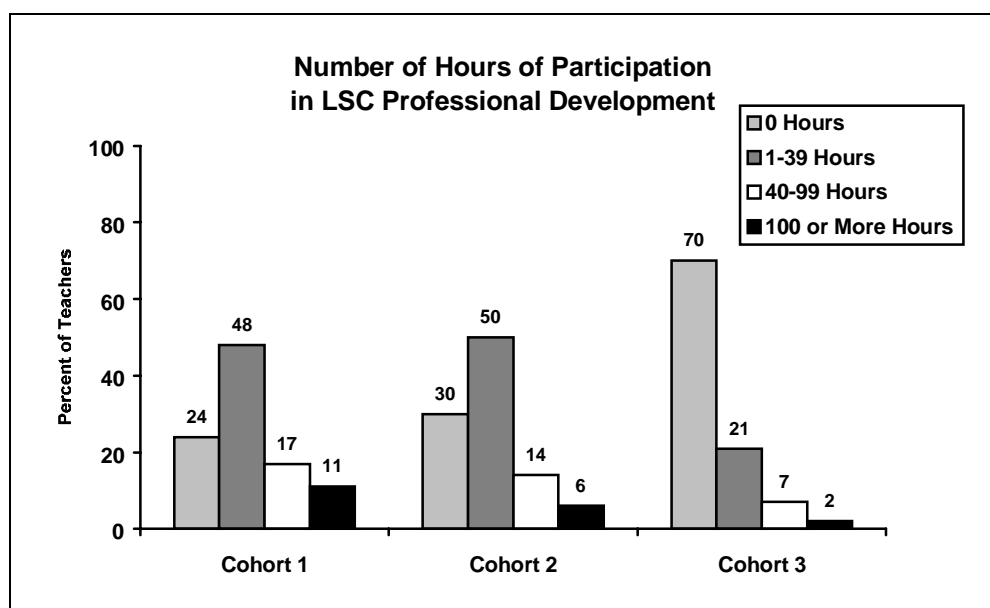


Figure 5

Extent of Teacher Participation in LSC

A total of 76 percent of Cohort 1 targeted teachers reported that they had been involved in LSC professional development by the spring of 1997 (in their project's third year), with 11 percent having participated for the full 100 hours of treatment designated for K-8 teachers; the figures

for Cohort 2 were 70 percent involved and 6 percent, full participation. Not surprisingly, the percentage participating was much lower for Cohort 3, since some of those projects were just beginning at the time of data collection.

Demographic Characteristics of LSC Participants and Targeted Populations

Table 2 provides demographic information both on teachers who have already participated in LSC professional development activities, and on the entire targeted population. Across all projects, 86 percent of the targeted teachers are female, 75 percent are white, and 54 percent have taught for more than 10 years. The gender distribution varies by grade range, from slightly more than half female in the 7–12 mathematics projects to nearly 90 percent of the teachers targeted by the K–8 science and K–8 mathematics projects; these figures, as well as those for prior teaching experience, roughly mirror the national population. In contrast, percentages of non-white teachers vary from 20 percent for 7–12 mathematics projects to 31 percent for K–8 mathematics projects, in all cases considerably greater than the roughly 10 percent non-white teachers in the nation as a whole.

In most cases, the “participant” group is comparable to the entire targeted population. For example, 89 percent of the K–8 science targeted population and 90 percent of the K–8 science participants are female. Differences of note include:

- 7–12 mathematics projects have worked with a smaller proportion of male teachers than exists in their targeted population as a whole; and
- K–8 mathematics projects have worked with a smaller proportion of African-American teachers than exists in their targeted population as a whole.

Table 2
Demographic Characteristics of LSC Teachers

	Percent of Teachers							
	All Teachers		K–8 Science		K–8 Mathematics		7–12 Mathematics	
	Participants	Targeted	Participants	Targeted	Participants	Targeted	Participants	Targeted
Gender								
Female	87	86	90	89	85	88	61	54
Male	13	14	10	11	15	12	39	46
Race/Ethnicity								
White	77	75	77	77	75	69	78	80
African-American	11	12	11	11	8	16	8	8
Hispanic	7	7	5	6	11	9	6	6
Asian	3	3	4	4	2	3	5	4
American Indian	1	1	1	1	1	1	1	1
Other	2	2	1	2	2	2	2	3
Prior Teaching Experience								
0–2 Years	14	15	13	14	16	17	15	16
3–5 Years	13	13	13	13	15	15	13	12
6–10 Years	19	18	18	18	21	18	16	16
11–20 Years	28	26	28	27	27	25	23	20
21+ Years	27	28	28	28	21	26	32	35

Course Background of LSC Participants and Targeted Populations

Similar comparisons were made for teacher course background preparation. In science, 90 percent of the teachers who have participated in LSC activities have had college coursework in life science, 81 percent in physical science, and 75 percent in earth science, comparable to the percentages in the targeted population as a whole. Similarly, for K–8 mathematics, 90 percent of participating teachers have had a college course in number system concepts, 78 percent in concepts in algebra, and 64 percent in concepts in geometry, comparable to the percentages in the K–8 mathematics targeted population.

The situation is somewhat different in the 7–12 mathematics projects. Participants differ markedly in their teaching assignments: only 24 percent of the grade 7–12 mathematics teachers who have already participated in LSC professional development currently teach at the high school level, compared to 41 percent of the targeted population. In addition, teachers initially participating in these projects tend to have weaker mathematics backgrounds than teachers in the targeted population as a whole.

School Involvement in LSC Activities

Table 3 provides information on the schools where LSC teachers teach. For both K–8 science and K–8 mathematics projects, schools of teachers who have participated in the LSC are similar to schools of teachers in the targeted population as a whole. For example, 32 percent of the K–8 science participants and 33 percent of the K–8 science targeted population teach at schools where three-fourths or more of the students are non-white. The situation is somewhat different in 7–12 mathematics projects, where participating teachers are less likely than those in the targeted population to come from large or predominately white schools.

Additional information on school involvement comes from the principal questionnaires. Principals were asked if they were familiar with the LSC project in their district and the extent to which they themselves had been involved in those activities. As can be seen in Table 4 roughly 60 percent of the principals of Cohort 1 and Cohort 2 schools targeted by the LSC indicated that they were familiar with the project, and about half said they had been involved in LSC project activities.

However, evaluators noted that these figures may underestimate principal involvement in the LSC projects. While PIs were asked to describe the LSC project activities in a cover letter accompanying the questionnaires, evaluators noted that some respondents nevertheless seemed not to have made the connection. For example:

It appears that responses to principal questionnaire items earmarked to provide data for this section of the report might have been skewed due to the fact that the items used the terminology “LSC” and principals, even after reading the cover letter, might not have realized that “the LSC project” was in fact the [local name] project.

Table 3
Demographic Characteristics of LSC Teachers' Schools

	Percent of Schools					
	K-8 Science		K-8 Mathematics		7-12 Mathematics	
	Participants	Targeted	Participants	Targeted	Participants	Targeted
School Size						
< 400	21	20	17	18	5	4
400-599	35	34	29	31	17	10
600-799	25	27	13	18	20	21
≥ 800	19	19	42	34	57	66
	Percent of Students					
Non-White						
< 25 %	25	23	20	14	29	34
25-49 %	28	25	19	13	28	20
50-74 %	15	20	17	21	9	17
≥ 75%	32	33	45	52	34	29
Limited English Proficiency						
0 %	31	26	20	32	19	19
1-9 %	40	40	30	25	55	48
≥ 10%	29	34	49	42	31	33
Free Lunch						
< 20 %	25	24	18	9	40	37
20-49 %	30	28	17	17	36	30
50-79 %	21	22	29	31	17	24
≥ 80 %	25	25	36	44	8	9

Table 4
Principal Involvement with the LSC

	Percent of Principals			
	All Cohorts	Cohort 1	Cohort 2	Cohort 3
Familiar with the LSC project in their district	53	62	57	45
Involved in the LSC project activities	40	48	48	31

Issues for Full Involvement in LSC

Most evaluators indicated that the LSC projects were reasonably “on schedule” for reaching the goal of providing in-depth professional development to all targeted teachers, and in a few cases had “far exceeded project goals” for this point in the project.

Other evaluators reported that their projects had experienced difficulty in reaching the targeted teachers, as in the case of one Cohort 1 project having to temporarily compromise the quality of the professional development in order to keep the program on schedule. (See box.)

An Evaluator Reports How School Constraints Affected the LSC Professional Development Plans

It is notable that although both principals and teachers are on schedule in terms of amount of time spent in professional development training, a conflict did arise concerning the configuration that teacher training would take. In the first year of training, teachers were assigned to training sessions both by grade level and by school. This meant that all the 5th grade teachers from one school would be missing from the classrooms on the same days for three different days during the year. The strength of this configuration is that teachers who are teammates at a school can take advantage of lunch, break times, and class discussion periods to plan, as a group, the ways in which they will implement the science lessons in their specific setting. This team planning was an ancillary, but tangible benefit of the configuration.

While teachers were in favor of this pattern, principals complained that it had a negative impact on classrooms. In the eyes of many principals, the presence of substitute teachers in all sections of a grade level for three days during the year was disruptive to the educational program for students. In order to address this concern of principals, the training pattern was changed for 1996–97. Training still occurred by grade level groupings, but only one or, at the most two, teachers from any one school attended training on the same day. Principals preferred this arrangement, but teachers did not find it nearly as beneficial....The 1997–98 training pattern is back to the original one. Principals and the project director were able to work out a compromise that better meets the training needs of teachers while maintaining classroom integrity. With careful scheduling, adequate advance notice, and the cooperation of the substitute teacher service, the disruption to the classroom can be kept to a minimum.

In some cases, the number of mathematics/science teachers in the targeted districts has expanded considerably because of additional hires in order to meet statewide class size reduction mandates. Evaluators report that some LSC projects are now trying to make resources stretch in order to reach, for example, 400 rather than 300 teachers. One Cohort 1 project evaluator noted that the LSC will likely provide a larger total number of contact hours of professional development than originally proposed, “however, the benefit of those hours will probably not have the same effectiveness given that they will be spread out over 100 more teachers.”

A number of projects have run into problems with mandating LSC professional development. Evaluators report that some projects have begun with “volunteer” teachers and are now working on strategies to recruit additional teachers. Evaluators report that a few other projects have changed the definition of targeted teacher from “every teacher of mathematics/science in the targeted grades” to those who are willing to participate, a surprising result given the emphasis in the LSC on whole-district reform. Said one evaluator:

In the first year of the project, most teachers participated in mandatory week-long summer institutes with their entire school staff and a series of follow-up after-school workshops. However, a teacher union issue surfaced during the first year, namely that the rate of pay for teachers is different for mandatory and voluntary professional development activities. Because the project can only afford to pay the voluntary rate, all attendance on the part of teachers is now voluntary and all documents (including reminder flyers) must note the voluntary nature of the LSC professional development.

Summary

- ❑ Evaluators report that most LSC projects are on schedule for providing in-depth professional development to all teachers in the targeted subjects and grades. To date, the population of elementary teachers participating in LSC professional development activities closely mirrors the overall targeted population in these districts in terms of teacher gender, race/ethnicity, and course background preparation. In contrast, secondary mathematics projects appear to be starting with less well-prepared teachers in the middle rather than the high school grades.
- ❑ Based on their responses to core evaluation questionnaires, a substantial proportion of principals is neither involved in nor knowledgeable of, LSC activities. However, a number of evaluators pointed out that principals they know to have been involved indicated otherwise on the core evaluation questionnaires, perhaps not associating those activities with the term “LSC program.”
- ❑ A more serious concern is the fact that a few projects appear to have redefined targeted teacher population to mean those who are willing to participate, which is clearly inconsistent with the intent of the LSC initiative.