

CHAPTER 6

THE TEACHER FOLLOWUP SURVEY

6.1 Introduction

The SASS Teacher Followup Survey is conducted in the school year following the four basic surveys. Information is collected from a subset of the sample teachers who responded to the Teacher Survey in the base school year. On the basis of inquiries to their schools early in the following school year, teachers who responded in the base year are classified into three categories:

- (1) **Leavers.** Those who left the teaching profession between the base year and the following year.
- (2) **Movers.** Those who moved to a different school between the base year and the following year.
- (3) **Stayers.** Those teaching in the same school in both years.

For some purposes the stayers and movers are referred to collectively as current teachers and the leavers as former teachers. The sample for the Teacher Followup Survey consists of all of the leavers and a subset of the movers and stayers.

The main purposes of the Teacher Followup Survey are: to measure attrition rates for elementary and secondary teachers; to determine and compare the characteristics and attitudes of leavers, movers and stayers; to determine the current economic activities of leavers; and to obtain data on educational activities and future plans for all groups. Two different mail questionnaires were used for the survey in both rounds, one for current teachers (stayers and movers) and one for former teachers (leavers). The questionnaire for current teachers included a set of items that applied only to movers. A single version of the questionnaire was used for telephone followups of nonrespondents.

The Teacher Followup Survey questionnaires for Rounds 1 and 2 included a request for information that would facilitate future contacts with the sample teachers, but there has been no further collection of information from them. There will be no recontacts of respondents to the Teacher Followup Survey following Round 3, but it is hoped that subsequent rounds may include some recontacts of respondents.

For the four basic surveys (covered in Chapters 2 to 5), we have described the survey designs and procedures for Round 2 of SASS, along with information on the quality of data for both Rounds 1 and 2. For most features of the Teacher Followup Survey, however, we will describe only the design and procedures used in Round 1. The Round 2 Teacher Followup Survey was conducted for school year 1991-92 and data processing has been completed. A description of its design and procedures, along with some information on response rates and

other aspects of quality, is included in the Data File User's Manual for the Round 2 Teacher Followup Survey (Whitener, Rohr, Bynum, Kaufman and King, 1994).

The remaining sections of this chapter cover: frame development and sampling (6.2); data collection procedures and associated errors (6.3); and data processing and estimation (6.4). A section on evaluation of survey estimates is not included because no information on comparison of weighted survey estimates with data from other sources is available at this time.

6.2 Frame development and sampling

The target population The target population for the Teacher Followup Survey consisted of persons who, during the base school year (1987-88 for Round 1), were regular full-time and part-time teachers whose primary assignment was teaching in kindergarten or any of grades 1 to 12, in eligible schools. Also included were persons who, in the base year, were substitutes filling the role of a regular teacher on a long-term basis or itinerant teachers (those teaching regularly in more than one school).

The target population is divided into three groups: stayers, movers and leavers, according to their status in the year following the base year. *Stayers* are those who continued as teachers, according to the above definition, in the same school. *Movers* are those who continued as teachers in a different eligible school. *Leavers* include all base-year teachers who were not teaching in kindergarten or grades 1 through 12 in the following year, including those who continued to work in schools, but in non-teaching jobs.

Design considerations A primary sample design objective for the Teacher Followup Survey was to support comparative analyses of stayers, movers and leavers for teachers classified by sector (public and private), level (elementary and secondary), and years in teaching (new and experienced). A large majority of teachers in all categories were stayers (estimated at 86.6 percent of public school teachers and 77.7 percent of private school teachers in school year 1987-88) (Bobbitt and Burns, 1991, Table 4). Consequently, it was necessary to oversample movers and leavers in order to reduce the sampling errors of estimated differences among groups. As mentioned in Chapter 5, Section 5.2, new teachers in private schools had been oversampled for the Teacher Survey in order to ensure a sufficient sample of teachers in this category for the Teacher Followup Survey.

The Teacher Followup Survey does not include a sample of teachers who did not respond in the Teacher Survey. Base-year information would not be available for these teachers, thus limiting the utility of their Teacher Followup Survey responses for analysis.

Frame development for Round 1 Before selecting a sample of teachers for the Teacher Followup Survey, it was necessary to determine their current status as stayers, movers or leavers. In late October 1988, the Census Bureau mailed computer-generated Teacher Status Forms to the school principals or heads of 11,584 schools nationally, requesting this

information for all sample teachers who had responded to the Teacher Survey. Schools not responding were telephoned to obtain the information requested for the teachers listed on the forms. For all teachers reported as having moved, the Census Bureau attempted to obtain their current home addresses from the U.S. Postal Service.

Sample design and selection for Round 1 The sample of responding teachers for the Teacher Survey was the starting point for selecting the sample for the Teacher Followup Survey. Details about the selection of the sample of schools for the School Survey and the sample of teachers from those schools for the Teacher Survey can be found in Chapters 2 and 5, respectively.

The samples of teachers for the Teacher Followup Survey were set at approximately 5,100 for public schools and 2,100 for private schools. These totals were further allocated within each sector among 12 strata defined in terms of current status (stayer, mover or leaver), level (elementary or secondary) and years of experience (new or experienced). A primary goal of the allocation was to have a sufficient sample of teachers in each of the 24 categories to permit comparisons across strata, for example, proportions of leavers among new elementary school teachers in public and private schools.

Once the information on the current status of teachers who participated in the Teacher Survey was determined from their schools, the teachers were allocated to the 24 strata. All teachers whose current status had not been determined were classified as leavers for sample selection purposes. The sampling intervals needed to achieve the target sample sizes in each of the 24 strata were calculated. For all of the leaver strata and some of the mover strata it was necessary to include all Teacher Survey respondents in the sample.

In each of the strata for which a subsample of the Teacher Survey respondents was to be selected, the responding sample teachers were sorted in a specified order: for public schools by Census region, urbanicity, subject taught and school enrollment; and for private schools by association, urbanicity, subject taught and school enrollment. The samples for the Teacher Followup Survey were selected systematically, with probability proportionate to size. The measure of size used was the inverse of the teacher's probability of selection for the Teacher Survey sample, so that the Teacher Followup Survey samples for each of the strata would be more nearly self-weighting, that is, each teacher in a stratum would have the same base weight, prior to adjustments for nonresponse.

Evaluation of the sampling frame The overall coverage of the target population for the Teacher Followup Survey depended in large part on the completeness of coverage of the frames used for the base-year School and Teacher Surveys. Evaluation of those frames is discussed in Chapters 2 and 5, respectively. The proportion of the target population for the Teacher Followup Survey covered by its sampling frame was further reduced by the exclusion of nonrespondents to the Teacher Survey.

The current status of some teachers, as determined from their survey responses, may have

been different from the status reported for them on the Teacher Status Forms that were sent to the schools at the start of the 1988-89 school year. Such differences could result from changes in status during the school year or from reporting errors on the Teacher Status Forms or the Teacher Followup Survey questionnaires. Differences of the first two kinds would not bias the estimates, but would lead to increases in sampling errors as a result of the introduction of unequal sampling probabilities within some of the 24 strata used for sampling. The problem would be particularly severe if leavers or movers had been incorrectly classified as stayers, in which event they would receive base weights substantially greater than those of other teachers in their categories. Incorrect reporting of status on the Teacher Followup Survey questionnaire would, of course, bias the survey estimates.

Assigning all teachers whose current status was unknown to the leaver strata also caused some increase in sampling error to the extent that such teachers turned out to be stayers or movers. However, the increase would have been much larger if these teachers had been assigned to the strata for stayers or movers.

6.3 Data collection procedures and associated errors

Data collection procedures for Round 1 Teacher Followup Survey questionnaires were mailed to the samples of current and former teachers at their home addresses in March 1989. For teachers not responding to the first mailing, a second set of questionnaires was mailed about 4 to 5 weeks later. In the initial mailing, teachers who had been sent questionnaires that were inappropriate for their status (current or former teacher) had been asked to return them so that the correct version could be sent to them. These replacement questionnaires were sent at the time of the second mailing.

Lists of nonrespondents to the mail questionnaires were sent to the Census Bureau regional offices for telephone followup by Census Bureau field representatives, starting in May 1989. For the telephone followups a separate version of the questionnaire, designed to accommodate both current and former teachers, was used. At this time the field representatives also tried to contact teachers for whom questionnaires had not been mailed because no current mailing address had been obtained. Means of locating such teachers included calls to the contact persons listed by the teachers on their Teacher Survey questionnaires, use of telephone directory assistance, and calls to the schools where the teachers had been teaching in the base year. All followup efforts were closed out at the end of the first week of July 1989 (Faupel, Bobbitt and Friedrichs, 1992).

Quality assurance In Round 1, reinterviews were attempted for 1,500 teachers, about 1 in 5 of those who responded to the Teacher Followup Survey. They were successfully completed for 83 percent of the eligible cases. For teachers who responded by mail prior to the cutoff date, the reinterviews were conducted by telephone from the Census Bureau's Hagerstown, Maryland Telephone Center. For all other teachers, Census Bureau field representatives conducted the reinterviews by telephone. Results of the reinterviews are presented below, under the heading "Measurement error: findings from reinterviews."

Nonresponse error Table 6.1 shows response rates, by sector and teacher status, for the Round 1 and Round 2 Teacher Followup Surveys. The overall response rates shown in the table are the product of response rates at three stages: obtaining teacher lists from schools, obtaining response in the Teacher Survey from a sample of the teachers listed, and obtaining response in the Teacher Followup Survey from a sample of those who responded in the Teacher Survey. Overall response rates improved between Rounds 1 and 2 in both the public and private sectors and for both current and former teachers in each sector.

As the table shows, responses were obtained in both rounds from well over 90 percent of the teachers selected, in all categories, for the Teacher Followup Survey. Because of difficulties in locating former teachers (leavers), their response rates were lower than those for current teachers (movers and stayers) (Kaufman, 1991). Response rates at this stage were about the same for public and private school teachers. Because of lower response rates for private schools and teachers in the first two stages, private school teachers' overall response rates were substantially lower in both rounds than those for public school teachers.

Table 6.2 shows unweighted item response rates, for current and former teachers, for Rounds 1 and 2 of the Teacher Followup Survey. The rates for the two groups are not directly comparable, because there were substantial differences in the content of the two versions of the questionnaire. In Round 1, one low-response item was common to both versions: it asked whether there were any persons, other than spouse and children, dependent on the responding teacher for more than half of their financial support. The response rate for this item was 49 percent for both current and former teachers. For current teachers, only 65 percent responded to an item that applied only to movers who had moved to a private school, asking for the religious affiliation of that school. All other items on both versions of the questionnaire had response rates of 70 percent or more.

Item response rates for a series of items asking for the level of respondents' satisfaction with various aspects of their current jobs were substantially higher for movers and stayers combined (99.0 to 99.4 percent) than they were for leavers (83.0 to 90.6 percent) (Choy, Medrich, Henke and Bobbitt, 1992, p. 154). Some leavers, of course, did not have jobs for which these items would have been relevant and the questionnaire had a skip instruction designed to allow them to bypass this item. The lower item response rates for leavers may have been associated with some confusion about whether to skip and which set of items to skip.

For Round 2, there were 3 items on the questionnaire for current teachers that had response rates less than 80 percent. All of them related to earnings from nonteaching jobs. For former teachers, there was only 1 item, asking for the kind of business or industry where the respondent worked, with a response rate below 80 percent.

Measurement error: findings from reinterviews (*Note: For the following discussion of reinterview results, readers not familiar with the interpretation of statistical measures of*

response variance developed from reinterviews may wish to refer to the side bar explaining these measures, in Chapter 2, p. 2.14.)

When asked in reinterviews to report their status *at the time they responded to the initial interview*, 7 percent of the teachers reinterviewed reported a different status than they had in the initial interview. Of the 83 teachers who reported a different status, 20 changed from current teacher in the initial interview to former teacher in the reinterview and 63 changed from former to current teacher. No attempt was made to reconcile these differences in the reinterview. Because different sets of questions were asked for current and former teachers, those who reported a different status in the reinterview were excluded from further analyses of the questionnaire items included in the reinterviews (Royce, 1990).

Table 6.3 shows the distribution of estimated indexes of inconsistency for all items included in the Teacher Followup Survey reinterviews, separately for current and former teachers. Most of the reinterview items for former teachers dealt with the teachers' opinions, attitudes and expectations. For current teachers there was a more nearly equal division between factual and opinion items.

Most of the factual items had indexes in the low or medium ranges. The two factual items for current teachers that had high indexes of inconsistency related to teacher certification in the fields of their primary and secondary teaching assignments. Special analyses of the components of income reported by current teachers showed, for those who reported non-zero amounts on both occasions, a correlation of 0.95 for reports of base salary. For other components the estimated correlations were much lower: 0.22 for non-teaching compensation and -0.39 for summer school salary.

The majority of opinion items had indexes of inconsistency in the high range and none of them were in the low range. Former teachers were asked to rate their current occupations on several aspects of job satisfaction both in an absolute sense and relative to teaching. Table 6.4 compares the indexes of inconsistency estimated for the absolute and relative ratings. Even though the indexes were in the medium to high range for all items, respondents were clearly more consistent in providing comparative ratings on a three-point scale than they were in providing absolute ratings on a four-point scale.

For items on current teachers' satisfaction with their jobs and on former teachers' satisfaction with their current jobs, all of which used a four-point scale, indexes of inconsistency were re-estimated with the four response categories collapsed into two: satisfied and dissatisfied. The resulting indexes were lower in all instances and in many cases moved from the high to the moderate range. As a result of these findings, the data from these items have generally been presented in the collapsed form in publications.

6.4 Data processing and estimation

Data processing for Round 1 Data processing procedures were similar to those used in the four basic surveys. The main steps were: clerical edit, data keying, computer pre-edit, review and correction of rejects from computer pre-edit, and computer edit. The computer edit included range checks, inter-item consistency checks and a blanking operation to eliminate items that respondents answered unnecessarily because they did not follow skip instructions correctly. There was no imputation of missing items for Round 1 of the Teacher Followup Survey.

Weighting in Round 1 The overall weights for teachers in Round 1 of the Teacher Followup Survey were the product of three components. The *Teacher Survey final weight* was the weight assigned to the teacher in producing the estimates for that survey (for a full description, see Chapter 5, Section 5.4). The *Teacher Followup Survey basic weight* was the inverse of the teacher's probability of selection, given that he or she had been selected for the Teacher Survey. The *nonresponse adjustment* was used to adjust for eligible sample teachers for whom questionnaires were not obtained in the Teacher Followup Survey. Within each of the 24 strata used in selecting the sample for the Teacher Followup Survey, the nonresponse adjustments were calculated separately for each of 12 adjustment cells defined by sex, level of education (2 categories) and age (3 categories) (Waite, 1990).

The weights provided in the public-use data tape from the Teacher Followup Survey were slightly different from those used to produce tabulations published in *Characteristics of Stayers, Movers, and Leavers: Results from the Teacher Followup Survey, 1988-89* (Bobbitt and Burns, 1991). The resulting changes in the estimates were very small relative to their standard errors; most of the published percentages would not be affected (Faupel, Bobbitt, and Friedrichs, 1992, pp. 17-18).

Variance estimation for Round 1 A balanced half-sample replication variance estimation procedure (see Chapter 2, Section 2.4 for details) is used to estimate sampling errors for all SASS surveys. Replicate weights for use in such estimates of sampling error are included on all SASS public-use microdata files. Because the sample for the Teacher Followup Survey was a probability subsample of the Teacher Sample Survey, the same set of replicates was used for both surveys. However, some adjustments were made in the replicates for the Teacher Followup Survey in order to equalize the sample sizes for stayers, movers and leavers within each variance stratum.

Variance estimates may be slightly biased because nonresponse adjustments and ratio estimation factors were not recalculated for each replicate, and no allowances were made for finite correction factors. Estimates of variances for small subdomains of interest are themselves subject to large sampling errors, especially when there are no data for the subdomain in some of the replicates in a variance stratum.

Table 6.1 Teacher Followup Survey Overall Response Rates: Round 1

Component	Sector			
	Public		Private	
	Current Teachers ^{1/}	Former Teachers	Current Teachers ^{1/}	Former Teachers
ROUND 1				
School Response Rate ^{2/}	95		90	
Teacher Survey Response Rate ^{3/}	90.3		83.6	
Teacher Followup Survey Response Rate ^{4/}	97.4	92.4	96.2	94.1
OVERALL RESPONSE RATE^{5/}	84	79	72	71
ROUND 2				
School Response Rate ^{2/}	96		88	
Teacher Survey Response Rate ^{3/}	86.4		79.1	
Teacher Followup Survey Response Rate ^{4/}	97.5	93.6	96.6	93.1
OVERALL RESPONSE RATE^{5/}	81	78	67	65

Notes:

1. Includes stayers and movers.
2. Percent of all in-scope schools providing teacher lists for sampling, unweighted.
3. Percent of eligible sample teachers responding to Teacher Survey, weighted.
4. Percent of eligible sample teachers responding to Teacher Followup Survey, weighted.
5. Product of first three components.

Sources: NCES (1991c), NCES (1992c), Gruber, Rohr, and Fondelier (1993), Whitener, S., Rohr, C., Bynum, L., Kaufman, S. and King, K. (1993).

Table 6.2 Teacher Followup Survey Unweighted Item Response Rates

Status	Range of Item Response Rates (Percent)	Percent of Items with Response Rates:	
		≥ 90%	< 80%
Round 1			
Current Teacher	65 - 100	90	5
Former Teacher	27 - 100	61	1
Round 2			
Current Teacher	67 - 100	95	5
Former Teacher	57 - 100	87	1

Source: NCES (1991c), Whitener, S., Rohr, C., Bynum, L., Kaufman, S. and King, K. (1993).

Table 6.3 Teacher Followup Survey Indexes of Inconsistency^{1/} Estimated from Reinterviews: Round 1

Teacher Status and Type of Item	Number of Items	Index of Inconsistency			
		High >50	Medium 20-50	Low <20	NA ^{2/}
Current (movers and stayers)					
Factual	19	2	4	3	10
Opinion	13	8	1	--	4
Former (leavers)					
Factual	2	--	1	1	--
Opinion	22	13	7	--	2

Notes:

1. For items with more than 2 response categories, the L-fold index of inconsistency was estimated.
2. Did not meet the minimum requirements to compute a reliable estimate of the index of inconsistency.

Source: Royce (1990).

Table 6.4 Teacher Followup Survey Indexes of Inconsistency for Selected Opinion Items for Leavers: Round 1

Aspect of Current Occupation Rated (Text of questions is presented below)	Index of Inconsistency When:	
	Rated for Current Occupation ^{1/}	Current Occupation Compared to Teaching ^{2/}
Salary Point Estimate 90% Confidence Interval	63* 54-74	37* 30-48
Opportunities for Professional Advancement Point Estimate 90% Confidence Interval	63 54-75	56 47-70
Autonomy or Control Over Your Own Work Point Estimate 90% Confidence Interval	79* 69-92	53* 43-65
Benefits Point Estimate 90% Confidence Interval	65* 56-76	38* 31-48
Intellectual Challenge Point Estimate 90% Confidence Interval	60* 51-72	43* 35-53

*Statistically significant difference between absolute and comparative ratings (at 90% confidence).

Notes:

1. **Question 27.** How satisfied are you with EACH of the following aspects of your CURRENT job? Are you (a) Very satisfied, (b) Somewhat satisfied, (c) Somewhat dissatisfied, or (d) Very dissatisfied with--
2. **Question 26.** How would you rate teaching relative to your current PRIMARY occupation in terms of EACH of the following aspects? Please indicate (a) Better in teaching, (b) Better in current position, or (c) No difference--

Source: Royce (1990).

