Documentation for the 2008–09 Teacher Follow-up Survey

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Chapter 1. Overview

The Teacher Follow-up Survey (TFS) is sponsored by the National Center for Education Statistics (NCES) on behalf of the U.S. Department of Education and is conducted by the U.S. Census Bureau.

TFS is a follow-up survey of selected elementary and secondary school teachers who participated in the Schools and Staffing Survey (SASS).[1] SASS is the largest, most extensive survey of K–12 school districts, schools, teachers, and administrators in the United States today. It provides extensive data on the characteristics and qualifications of teachers and principals, teacher hiring practices, professional development, class size, and other conditions in schools across the nation. TFS focuses on a sample of teachers who participated in SASS, including both teachers who left and teachers who remained in the K–12 teaching profession.

TFS includes teacher data from public (including public charter) and private school sectors, similar to SASS. However, due to anticipated insufficient sample sizes, TFS, by design, does not include teachers who taught in Bureau of Indian Education-funded (BIE) schools during the SASS school year. Together, SASS and TFS data provide a multitude of opportunities for analysis and reporting on elementary and secondary educational issues.

Background

TFS is a follow-up of selected teachers from the SASS teacher surveys and is conducted during the school year following SASS. It was conducted in the 1988–89, 1991–92, 1994–95, 2000–01, 2004–05, and 2008–09 school years (after the 1987–88, 1990–91, 1993–94, 1999–2000, 2003–04, and 2007–08 administrations of SASS, respectively). NCES currently plans to conduct the next TFS in the 2012–13 school year; it will collect data from a subsample of teachers who participate in the 2011–12 SASS.

Over time, the philosophy behind TFS has changed. Beginning with the 2004–05 survey, TFS has more closely resembled the SASS teacher questionnaires than in the previous TFS administrations. There was a greater overlap of TFS and SASS teacher items, and fewer items were unique to TFS, other than items pertaining to leaving last year's teaching position. For the 2008–09 TFS, the number of items was substantially reduced, and the reasons for moving to a new school and leaving the position of a K–12 teacher were revised to make them comparable. When examined together, the results of TFS and SASS can give researchers insight on many different educational issues, including the retention of teachers in public and private schools and teachers' job satisfaction.

Congress, state education departments, federal agencies, private school associations, teacher associations, and educational organizations have used data from the 1988–89, 1991–92, 1994–95, 2000–01, and 2004–05 surveys. In particular, results of these prior administrations have been used to analyze changes in the teacher labor force over time, to develop incentive programs to encourage teacher retention, and to understand the effects of school practices and policies on a teacher's decision to continue teaching or leave the K–12 teaching profession.

Purpose and Content of the Survey

TFS is a one-time follow-up to the SASS teacher questionnaires and is conducted during the school year following SASS. Another survey, the Beginning Teacher Longitudinal Study (BTLS), continues to

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[1] For a complete description of the 2007–08 Schools and Staffing Survey, see *Documentation for the 2007–08 Schools and Staffing Survey* (NCES 2010-332).

follow-up with a subset of the SASS/TFS teachers (those whose first year of teaching was in 2007 or 2008).

The major objectives of the 2008–09 TFS were to

- measure the attrition rate for teachers;
- examine the characteristics of teachers who stayed in the teaching profession and those who changed professions or retired;
- obtain activity or occupational data for those who left the position of a K–12 teacher;
- obtain reasons for moving to a new school or leaving the K–12 teaching profession; and
- collect data on job satisfaction.

Basic demographic information about each teacher (e.g., sex, year of birth, race and ethnicity information), except marital status, was collected on the SASS teacher questionnaires. TFS data files can be linked to the SASS data files to provide contextual data on relationships between local districts and school policies and practices, teacher characteristics, and teacher attrition and retention.

There were four questionnaires that composed the 2008–09 TFS. Two were for 2007–08 SASS public school teacher respondents who began teaching in 2007 or 2008, and two were for the rest of the TFS sample. Within those two groups, there were two surveys each: one for current teachers and one for former teachers. The Questionnaires for Current Teachers (Forms TFS-3 and TFS-3L) collected information on sampled teachers who currently taught students in any of grades pre-K–12, and the Questionnaires for Former Teachers (Forms TFS-2 and TFS-2L) collected information about sampled teachers who left the K–12 teaching profession after the 2007–08 school year.

The TFS-3L and TFS-2L questionnaires, which were received only by beginning teachers, asked additional questions of current and former teachers. This set of teachers is included in both the TFS and BTLS samples. However, the additional questions included on the TFS-3L and TFS-2L questionnaires are found only in the BTLS data file and are not included in the summary below. Please refer to the BTLS documentation[2] for more information.

Questionnaire for Former Teachers (Form TFS-2)

The purpose of the 2008–09 Questionnaire for Former Teachers was to obtain information about those respondents who left teaching within the year after SASS, such as information about their present occupation or activity, reasons for leaving teaching, comparison of current position to teaching, and demographic characteristics that might have changed since the previous year.

The 2008–09 Questionnaire for Former Teachers had the following five sections:

- *Section I—Employment Status* collected general information about employment, salary, pension from a teacher retirement system, and retirement incentives.
- *Section II—Information on Leaving the Teaching Profession* obtained information about the factors that influenced the decision to leave the position of a K–12 teacher.
- *Section III—Your Impressions of Teaching and of Your Current Job* collected information about the current position relative to teaching on many aspects, such as salary, benefits, development and advancement opportunities, recognition, safety, and job security.

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[2] The BTLS documentation is expected to be released in the fall of 2011.

- *Section IV—Background Information* obtained information about citizenship status, marital status, and how many people the respondent and spouse/partner supported.
- *Section V—Contact Information* requested that respondents provide their personal contact information.

Questionnaire for Current Teachers (Form TFS-3)

The purpose of the 2008–09 Questionnaire for Current Teachers was to obtain information about current teachers, including teachers who continued to teach in the same school as in the previous year and those who changed schools. It collected information about their current teaching assignment, satisfaction with teaching, reasons for moving to a new school, comparison of current teaching position with last year's position, and demographic characteristics that might have changed since the previous year.

The 2008–09 Questionnaire for Current Teachers had the following four sections:

- *Section I—Assignments at Your Current School* collected information about general teaching status.
- *Section II—Information About Changes From Last School Year to This School Year* collected information about whether or not the teacher was teaching at the same school as the previous year, general information about the new school (if the teacher changed schools), factors that influenced the decision to leave the previous school (if the teacher changed schools), satisfaction with current teaching position relative to last year's teaching position, and overall satisfaction with being a teacher at the current school.
- *Section III—Background Information* obtained information about teacher salary, pension from a retirement system, citizenship status, marital status, and how many people the respondent and spouse/partner supported.
- *Section IV—Contact Information* requested that respondents provide their personal contact information.

Target Populations and Estimates

Target Population

The 2008–09 TFS sample was based on interviewed public (including public charter) and private school teachers who taught students in any of grades K–12 or in comparable ungraded levels during the 2007–08 SASS. The sample of teachers selected included those who left the position of a K–12 teacher within the year after SASS (leavers). It also included those who continued to teach students in any of grades pre-K–12 or in comparable ungraded levels, including teachers who remained in the same school as in the previous year (stayers) and who changed schools (movers); pre-K was included so that sampled teachers who changed assignments from teaching students in any of grades K–12 to teaching only pre-K students would not be considered leavers.

In SASS, the sampling frame for public schools was an adjusted version of the 2005–06 Common Core of Data (CCD), and the sampling frame for private schools was a modified version of the 2007–08 Private School Survey (PSS) sample. The sampling frame for the SASS teacher questionnaires consisted of lists of teachers provided by schools in the SASS sample. A teacher was defined as a staff member who taught a regularly scheduled class to students in any of grades K–12 or comparable ungraded levels.

Estimates

SASS was designed to produce national, regional, and state estimates for public elementary and secondary school teachers; national, regional, and affiliation stratum group estimates for private school teachers; and national and regional estimates for BIE-funded school teachers.

The SASS teacher survey was designed to support comparisons between new and experienced public school teachers (3 years of experience or less vs. more than 3 years of experience) at the state level, between new and experienced private school teachers at the affiliation stratum level, and between new and experienced BIE-funded school teachers at the regional level. Comparisons between teachers by race/ethnicity and by full-time or part-time status are possible at the national level.

TFS was designed to produce national comparisons for current and former teachers by the SASS school sector (public or private), grade level of SASS school (elementary, secondary, or combined), new versus experienced, and nonminority versus minority.

Methodology

In the 2004–05 TFS, an Internet reporting option was included, as a test, along with paper-based questionnaires. The Internet questionnaire became the primary method of collection for the 2008–09 TFS. Paper-based questionnaires were mailed to Amish and Mennonite teachers at the start of the collection, and to remaining nonrespondents much later in the collection. Interviewers contacted nonrespondents by telephone to encourage them to complete the questionnaire and/or to collect the data during the telephone call. In these cases, the interviewer used the Internet questionnaire to administer the interview.

In order to draw the sample for TFS, the first step of data collection was to mail a Teacher Status Form (Form TFS-1) to all schools in which teachers completed a SASS Teacher Questionnaire in the 2007–08 administration of SASS. A knowledgeable person at the school, such as the principal, was asked to complete the status form by indicating the current teaching status of each teacher listed on the form. The current teaching status as reported for the SASS teacher was used to determine which questionnaire, either the current or former teacher questionnaire, would be used when paper-based questionnaires were mailed. Respondents who completed the web-based questionnaires were automatically routed into the appropriate path after answering the screening question at the beginning of the questionnaire (question 1).

In February 2009, all teachers selected for the TFS sample (see chapter 3 for sampling methods) were mailed a letter inviting their participation in TFS using an Internet instrument. The letters contained the URL to the survey, along with a username and password to access their survey on a secure server. At the same time, teachers who provided an e-mail address(es) on their 2007–08 SASS Teacher Questionnaire received a similar e-mail invitation. In March 2009, a reminder letter was sent to all teachers. E-mail reminders were sent to nonrespondents at various times during the entire data collection period.

Telephone follow-up was conducted from late March 2009 through July 2009. In late April 2009, approximately 1 month after telephone follow-up began, paper-based questionnaires were mailed to all nonrespondents. A second paper questionnaire was mailed to the nonrespondents in early June 2009.

If an interview was still not obtained during telephone follow-up, the case was determined to be a noninterview. TFS respondents who were deceased, had moved out of the United States, or had never been teachers (i.e., had incorrectly completed the 2007–08 SASS Teacher Questionnaire) were determined to be out-of-scope for the survey. For more information about the interview status of TFS questionnaires, refer to the ISR sections of chapter 6.

Contents of the Manual

This report contains chapters on preparation for the 2008–09 TFS, frame creation and sample selection procedures, data collection, response rates, data processing, imputation procedures, weighting and variance estimation, a review of the quality of TFS data, structure of TFS data files and information on merging data files, and user notes and cautions.

Information in the chapters is supported by material in the appendices.

- A.   Key Terms for TFS
- B.   Questionnaire Availability
- C.   First Cognitive Testing of TFS Items: Summary of Findings and Recommendations
- D   Second Cognitive Testing of TFS Items: Summary of Findings and Recommendations
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Chapter 2. Preparation for the 2008–09 TFS

The National Center for Education Statistics (NCES) and the U.S. Census Bureau continually work to improve questionnaires for the Schools and Staffing Survey (SASS) and the Teacher Follow-up Survey (TFS). Prior to the administration of the 2008–09 TFS, several survey items were tested and improved. In an effort to develop questionnaire items that would accurately capture current and former teachers' responses to the key questionnaire items, cognitive interviews were conducted to identify problems in either existing or new items that could be corrected prior to the survey's administration. The results from the cognitive study were used to make revisions to the survey items.

Cognitive Interviews

Two series of cognitive interviews were conducted to test new and revised questions for TFS in the summer of 2007 and the spring of 2008. The U.S. Census Bureau contracted with Macro International, a research and evaluation company in Calverton, Maryland, to carry out both rounds of cognitive interviews. The purpose of these interviews was to gather feedback from both current and former teachers on several proposed and revised questions for the 2008–09 administration of TFS. Several of the questions tested were designed for the Beginning Teacher Longitudinal Study (BTLS) and do not appear on the TFS questionnaires (see the BTLS documentation[3] for more information).

The first round of cognitive interviews tested the following items for TFS:

- amount of teacher retirement pension;
- early retirement incentive;
- reasons for leaving the position of a K–12 teacher; and
- reasons for leaving the previous year's school.

In the spring of 2008, further revisions were tested for TFS, based on comments from the previous round of cognitive interviews as well as additional changes to the instrument:

- reasons for leaving the position of a K–12 teacher;
- reasons for leaving the previous year's school;
- number of family members being financially supported;
- whether the principal had changed since the previous year (for stayers only);
- general satisfaction as a teacher; and
- main occupation of leavers working in the field of K–12 education.

Details on methodology and findings can be found in "Appendix C. First Cognitive Testing of TFS Items: Summary of Findings and Recommendations" and "Appendix D. Second Cognitive Testing of TFS Items: Summary of Findings and Recommendations."

Content Changes

The TFS questionnaires were revised substantially from the 2004–05 versions prior to the testing. After both cognitive interview studies, the Questionnaire for Former Teachers (Form TFS-2) and Questionnaire for Current Teachers (Form TFS-3) were revised further based upon the results of the studies. As a result

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[3] The BTLS documentation is expected to be released in the fall of 2011.

of both processes, the following additions, deletions, and revisions were made to the TFS questionnaires between the 2004–05 and 2008–09 administrations.

Changes to the Questionnaire for Former Teachers (Form TFS-2)

Added Items

The following topics were added to the Questionnaire for Former Teachers between the 2004–05 and 2008–09 administrations of TFS:

- occupation of those working in the field of K–12 education but not as a teacher;
- amount of pension received from a teacher retirement system;
- whether contract was not renewed and why;
- various reasons for leaving teaching (e.g., required tests, low salary, lack of job security, professional development, not enough classroom autonomy, number of students, mainstreaming, intrusions on teaching, workplace conditions, student discipline, administrators, school policies/practices, performance pay, student assessments);
- citizenship status;
- change in marital status; and
- number of people being financially supported.

Deleted Items

The following topics were deleted from the Questionnaire for Former Teachers between the 2004–05 and 2008–09 administrations of TFS:

- earned income from second job;
- plans to remain in current position;
- whether person is retired and when he/she retired;
- other family or personal reason for leaving K–12 teaching;
- various measures of principal/school head effectiveness;
- various measures of satisfaction with state or district assessment programs;
- overall satisfaction with current position compared to K–12 teaching position;
- recent enrollment in college or university courses;
- plans to return to teaching;
- factors influencing potential return to teaching;
- total household income;
- number of individuals and children living in household; and
- Internet access.

Revised Items

The following topics on the Questionnaire for Former Teachers were revised between the 2004–05 and 2008–09 administrations of TFS:

- current main occupational status and description and classification of current job;
- full-time/part-time employment status;
- annual earnings;
- receipt of pension from teacher retirement system;

- retirement incentives;
- decision to leave the position of a K–12 teacher; and
- marital status.

Changes to the Questionnaire for Current Teachers (Form TFS-3)

Added Items

The following topics were added to the Questionnaire for Current Teachers between the 2004–05 and 2008–09 administrations of TFS:

- street address of new school;
- whether contract was not renewed and why;
- various reasons for leaving last year's school (e.g., health, required tests, salary, number of students, mainstreaming, intrusions on teaching, student discipline, administration, school policies/practices, student assessments);
- change in principal since previous year;
- comparison of current teaching assignment to previous one;
- general satisfaction with being a teacher at current school;
- amount of pension received from a teacher retirement system;
- citizenship status; and
- change in marital status.

Deleted Items

The following topics were deleted from the Questionnaire for Current Teachers between the 2004–05 and 2008–09 administrations of TFS:

- full-time/part-time status as a school employee;
- other school assignment;
- main teaching assignment field;
- current teaching certificate;
- grades taught;
- organization of classes;
- percentage of students with an Individual Education Plan;
- percentage of limited-English proficiency students;
- various measures of satisfaction with conditions and experiences at current school;
- various measures of frequency of student problems at current school;
- various measures of problems at school;
- various measures of satisfaction with teaching at school;
- weekly hours spent on instruction and other activities;
- participation in various activities and leadership roles;
- various measures of principal/school head effectiveness;
- various measures of satisfaction with state or district assessment programs;
- recent enrollment in college or university courses;
- plans to remain in teaching or leave;
- personal and school contributions to a retirement plan;
- additional earnings and compensation;

- total household income; and
- Internet access.

Revised Items

The following topics on the Questionnaire for Current Teachers were revised between the 2004–05 and 2008–09 administrations of TFS:

- full-time/part-time teaching status;
- teaching in current state;
- information about new school (i.e., ZIP code, school district, county);
- affiliation of private school;
- reasons for moving to a new school;
- rating of current teaching position relative to last year's teaching position;
- base teaching salary;
- receiving a pension from a teacher retirement system;
- marital status; and
- individuals being financially supported.

Final Content of 2008–09 TFS

The following is a brief summary of the major content areas for the 2008–09 TFS. For further details about the specific sections and content of each survey, please refer to chapter 1.

- The Questionnaire for Former Teachers (Form TFS-2) obtained information such as present occupation or activity, earnings, reasons for leaving teaching, comparison of current job to teaching, and demographic characteristics.
- The Questionnaire for Current Teachers (Form TFS-3) obtained information about current teaching position, earnings, reasons for moving to a new school and information about the new school (if applicable), comparison of last year's teaching position to current teaching position, satisfaction at current school, and demographic characteristics.

Copies of the 2008–09 TFS questionnaires may be obtained on the Internet at
http://nces.ed.gov/surveys/sass/questionnaire.asp or by e-mail to SASSdata@ed.gov.

Chapter 3. TFS Frame Creation and Sample Selection Procedures

This chapter describes the frame creation and sampling process for the Teacher Follow-up Survey (TFS) sample. Teachers sampled for TFS were drawn from teachers who were sampled and had completed interviews for the Schools and Staffing Survey (SASS), who in turn were drawn from schools sampled for SASS. This chapter begins with a brief description of the creation of the SASS school sampling frames. Next, the school sampling procedure is described, followed by the SASS teacher sampling, and finally the TFS teacher sampling process.

Note that Bureau of Indian Education (BIE)-funded schools and teachers were included in the SASS school and teacher sampling process. However, because there were so few teachers from BIE-funded schools, they were dropped from the TFS sampling frame. Therefore, the TFS sampling section of this chapter will not include any details on BIE-funded teachers.

SASS Sampling Frames

Public and BIE-funded Schools

The public school sampling frame was based on the 2005–06 school year Common Core of Data (CCD). CCD is collected annually by the National Center for Education Statistics (NCES) from all state education agencies and is believed to be the most complete public school listing available. The frame includes traditional public schools,[4] schools on Department of Defense military bases, BIE-funded schools, public charter schools, and nonregular schools such as special education, vocational, and alternative schools.

Duplicate schools as well as schools that did not meet the criteria for being in-scope for the survey (i.e., adult education centers, schools in which the highest grade offered was prekindergarten or kindergarten, homeschools, tutoring services, or administrative units) were eliminated from the file before sampling. Those records identified as administrative units were contacted to obtain a list of the schools that they oversee. Those lists of schools were compared to the frame and added if necessary.

In addition, school records that appeared to have a common administration and were housed in one building were collapsed into a single school. The schools that met the criteria often offered grades K–12 in the same building or administrative unit. Because of this, these schools often perceive themselves differently than the state does (i.e., as a single entity as compared to several separate schools). For this reason, it was decided for the 2003–04 SASS and again for the 2007–08 SASS to collapse the CCD records whenever it was believed that this situation was likely to occur.

Finally, corrections to the school records were made to facilitate the school sampling process. These corrections included filling in and/or modifying missing grade ranges, total enrollments, enrollment by race, teacher totals, physical location components, and the school's name.

The resulting number of schools on the 2007–08 SASS public school frame was 94,437. Of these, 178 were BIE-funded schools and 3,849 were public charter schools. Additional out-of-scope schools were detected during data collection and the processing of the sampled schools' SASS school questionnaires. These schools were eliminated from further processing of the school sample and are not part of any SASS estimates of the number of schools.

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[4] Traditional public schools are publicly-funded schools other than public charter schools.

Private Schools

The sampling frame for private schools was the updated 2007–08 Private School Universe Survey (PSS) list frame with the 2005–06 PSS area frame. The area frame serves as a coverage improvement for the list frame.

List Frame

The list frame used for the 2007–08 SASS private school sample was the same list used for the 2005–06 PSS, updated in the summer of 2006 using lists from 27 private school associations[5] and all 50 states and the District of Columbia. The resulting frame was also used for the 2007–08 PSS.

Area Frame

The SASS area frame was the 2005–06 PSS area frame, excluding schools with the highest grade of kindergarten. It consisted of a list of private schools that had not been included in the PSS universe and had not been reported by state or private school associations during the list frame updating operation. These schools were located in 123 selected primary sampling units (PSUs) throughout the United States.

Closed schools and out-of-scope schools (i.e., adult education centers, schools where the highest grade was prekindergarten or kindergarten, homeschools, or tutoring services) were deleted from the private school file before sampling. As with the public school frame, there were several corrections that needed to be made to school records in order for sampling to proceed. These corrections included modifying or filling in information for the school's grade range, affiliation stratum, total student enrollment, and teacher counts.

The resulting number of schools on the 2007–08 SASS private school frame was 28,454 list frame schools and 177 area frame schools. As with the public schools, any additional out-of-scope schools detected during data collection or the questionnaire processing were eliminated from any SASS estimates. Thus, SASS estimates do not agree with the frame counts.

SASS School Stratification

Stratification refers to the process of subdividing the population frame into mutually exclusive subsets (called strata) from which samples of schools are selected at appropriate rates.

Public and BIE-funded Schools

The first level of stratification for public and BIE-funded schools was school type, as follows:

A. BIE-funded schools were selected with certainty (automatically in sample);
B. public schools with high American Indian or Alaska Native student enrollment (schools with 19.5 percent or more American Indian or Alaska Native students);
C. schools in Delaware, Maryland, Florida, Nevada, and West Virginia, where at least one school from each district was selected, as described in the SASS School Sample Selection section below;
D. public charter schools,
E. Career Technical Center schools; and
F. all other schools.

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[5] Twenty-nine private school associations were contacted for lists of schools and 27 of them responded.

Schools falling into more than one category were assigned to types A, B, D, E, C, and F, in that order. For example, if a school were identified as BIE-funded as well as public charter, the school would be considered BIE for stratification purposes.

The second level of stratification varied within school type. All of the type A schools (BIE-funded schools) were selected for the sample, so no additional stratification was needed.

Type B (high American Indian or Alaska Native enrollment schools) schools were stratified by state (Arizona, California, Montana, New Mexico, Washington, the remaining Western states, Minnesota, North Dakota, South Dakota, the remaining Midwestern states, North Carolina, Oklahoma, and the remaining states). Note that Alaska was excluded from this group of strata because most schools in Alaska have a high Alaska Native enrollment and because the sampling rate applied to Alaska schools was higher than the sampling rate applied to other schools with high American Indian or Alaska Native student enrollment. Thus, schools in Alaska were generally included in group F.

Type C schools were stratified first by state and then school district. For details, see *Documentation for the 2007–08 Schools and Staffing Survey* (NCES 2010-332).

Type D schools (public charter schools) were stratified by state (Alaska, Arizona, California, Colorado, Hawaii, Idaho, New Mexico, Oregon, Utah, the remaining Western states, Indiana, Minnesota, Michigan, Ohio, Wisconsin, the remaining Midwestern states, Delaware, District of Columbia, Florida, Georgia, Louisiana, North Carolina, Texas, the remaining Southern states, Massachusetts, New Jersey, New York, Pennsylvania, and the remaining Northeastern states).

Type E schools (Career Technical Center schools) were all placed in one stratum.

Type F schools (all other schools) were stratified by state (all states including the District of Columbia, except those states in Type C).

Each of the school types, B through F, was then stratified by grade level (i.e., elementary, secondary, and combined) as defined below:

Elementary:	lowest grade ≤ 6 and highest grade ≤ 8
Secondary:	lowest grade ≥ 7 and highest grade ≤ 12
Combined:	lowest grade ≤ 6 and highest grade > 8, or ungraded[6]

Private Schools

List Frame

The list frame was partitioned into an initial set of cells using affiliation stratum (11 groups), grade level (three groups), and Census region (four groups). These cells were defined using the 2005–06 PSS data. For any school records that were missing information for these three variables, the data were imputed.

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[6] Ungraded schools refer to schools that serve students whose grade levels are not defined as grades 1 through 12, but serve students of an equivalent age range. For example, special education centers and alternative schools often classify their students as ungraded.

The first level of stratification was the school affiliation stratum (11 groups):

- Catholic—parochial;
- Catholic—diocesan;
- Catholic—private;
- Baptist;
- Jewish;
- Lutheran;
- Seventh-day Adventist;
- Other religious;
- Nonsectarian—regular;
- Nonsectarian—special emphasis; and
- Nonsectarian—special education.

Within each affiliation stratum, schools were stratified by grade level (i.e., elementary, secondary, and combined schools). The definitions are provided below:

Elementary:	lowest grade ≤ 6 and highest grade ≤ 8;
Secondary:	lowest grade ≥ 7 and highest grade ≤ 12; and
Combined:	lowest grade ≤ 6 and highest grade > 8, also includes ungraded schools.[7]

Within affiliation stratum/grade level, all private schools were stratified by four Census regions: Northeast, Midwest, South, and West.

Area Frame

All private schools from the area frame were automatically included in the sample, so no stratification was necessary.

SASS School Sample Selection

Public and BIE-funded Schools

To facilitate the calculation of school district weights, it was important that within a stratum all schools belonging to the same school district be listed together. This could have been achieved by sorting first by the school district's CCD identification number, called the Local Education Agency (LEA) ID. However, sorting by variables other than LEA ID first increased the efficiency of the sampling plan. To achieve both these goals, the ZIP code variables were recoded to make them the same for every school within a stratum/school district. After the ZIP code was recoded, non-BIE schools were sorted, hierarchically, by the following variables:

1. school stratum code (described in this chapter's SASS School Stratification section above);
2. state (one for each state and the District of Columbia);

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[7] Ungraded schools refer to schools that serve students whose grade levels are not defined as grades 1 through 12, but serve students of an equivalent age range. For example, special education centers and alternative schools often classify their students as ungraded.

3. locale code:
    11 = city, large: territory inside an urbanized area and inside a principal city with population of 250,000 or more;
    12 = city, mid-size: territory inside an urbanized area and inside a principal city with population less than 250,000 and greater than or equal to 100,000;
    13 = city, small: territory inside an urbanized area and inside a principal city with population less than 100,000;
    21 = suburb, large: territory inside an urbanized area and outside a principal city with population of 250,000 or more;
    22 = suburb, mid-size: territory inside an urbanized area and outside a principal city with population less than 250,000 and greater than or equal to 100,000;
    23 = suburb, small: territory inside an urbanized area and outside a principal city with population less than 100,000;
    31 = town, fringe: territory inside an urban cluster that is less than or equal to 10 miles from an urbanized area;
    32 = town, distant: territory inside an urban cluster that is more than 10 miles and less than or equal to 35 miles from an urbanized area;
    33 = town, remote: territory inside an urban cluster that is more than 35 miles from an urbanized area;
    41 = rural, fringe: Census-defined rural territory that is less than or equal to 5 miles from an urbanized area, as well as rural territory that is less than or equal to 2.5 miles from an urban cluster;
    42 = rural, distant: Census-defined rural territory that is more than 5 miles but less than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but less than or equal to 10 miles from an urban cluster;
    43 = rural, remote: Census-defined rural territory that is more than 25 miles from an urbanized area, as well as rural territory that is more than 10 miles from an urban cluster;
4. recoded ZIP code (all schools in a specific stratum/district have the same value for this variable);
5. school district ID as defined on CCD (LEA ID);
6. school's highest grade offered (in descending order);
7. recoded percent of all race/ethnicities other than non-Hispanic White (in descending order) and defined as
    1 = less than 5.5 percent all other race/ethnicities enrollment or unknown
    2 = at least 5.5 percent but less than 20.5 percent all other race/ethnicities enrollment
    3 = at least 20.5 percent but less than 50.5 percent all other race/ethnicities enrollment, and
    4 = at least 50.5 percent all other race/ethnicities enrollment;
8. total enrollment (in serpentine sort order defined as enrollment being sorted first in ascending then descending order within the other sort variables); and
9. CCD school ID.

This sort order differs slightly from the sort used in previous SASS cycles. The locale code was redefined to the 12-level place-based variable described above rather than the 8-level metro-based variable used in previous rounds of SASS.

The third and fourth variables (locale code and recoded ZIP code) allowed a geographic balance to be achieved within locale for each state. The fifth variable (LEA ID) guaranteed schools within a district and school stratum stayed together. The sixth variable (school's highest grade) allowed the sample size requirements for middle schools to be met, and the seventh variable (recoded percent of all other race/ethnicities than White, non-Hispanic) allowed a balance with respect to race/ethnicity. The eighth variable (school enrollment) also allowed a balance with respect to school size. The ninth variable, school ID, made the sort unique and therefore reproducible.

Within each stratum, all non-BIE schools were systematically selected using a probability proportionate to size algorithm. The measure of size, used to define the probability of selection for the schools, was the square root of the number of full-time equivalent teachers reported for each school or imputed during the sampling frame creation. Any school with a measure of size greater than the sampling interval (a measure of the spread between selected sample units in systematic sampling) was included in the sample with certainty (automatically) and excluded from the probability sampling operation. The BIE-funded schools were also selected for the sample with certainty. This produced a non-BIE sample of 9,795 (453 public schools with a high American Indian enrollment, 370 public charter schools, 20 Career Technical Center schools, and 8,952 other public schools) and a BIE-funded sample of 178 schools for a total of 9,973 public and BIE-funded sample schools in 2007–08 SASS.

Private Schools

Within each stratum, sorting took place on the variables listed below. Sorting serves to improve the efficiency of the overall design:

1. state (one for each state and the District of Columbia);
2. school's highest grade offered (in descending order);
3. locale code:
   - 11 = city, large: territory inside an urbanized area and inside a principal city with population of 250,000 or more;
   - 12 = city, mid-size: territory inside an urbanized area and inside a principal city with population less than 250,000 and greater than or equal to 100,000;
   - 13 = city, small: territory inside an urbanized area and inside a principal city with population less than 100,000;
   - 21 = suburb, large: territory inside an urbanized area and outside a principal city with population of 250,000 or more;
   - 22 = suburb, mid-size: territory inside an urbanized area and outside a principal city with population less than 250,000 and greater than or equal to 100,000;
   - 23 = suburb, small: territory inside an urbanized area and outside a principal city with population less than 100,000;
   - 31 = town, fringe: territory inside an urban cluster that is less than or equal to 10 miles from an urbanized area;
   - 32 = town, distant: territory inside an urban cluster that is more than 10 miles and less than or equal to 35 miles from an urbanized area;
   - 33 = town, remote: territory inside an urban cluster that is more than 35 miles from an urbanized area;
   - 41 = rural, fringe: Census-defined rural territory that is less than or equal to 5 miles from an urbanized area, as well as rural territory that is less than or equal to 2.5 miles from an urban cluster;
   - 42 = rural, distant: Census-defined rural territory that is more than 5 miles but less than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but less than or equal to 10 miles from an urban cluster;
   - 43 = rural, remote: Census-defined rural territory that is more than 25 miles from an urbanized area, as well as rural territory that is more than 10 miles from an urban cluster;
4. ZIP code;
5. enrollment as reported or imputed in the 2005–06 PSS (in descending order); and
6. PIN number (the PIN number is a unique number assigned to identify the school on PSS).

Within each stratum, private schools in the list frame were systematically selected using a probability proportionate to size algorithm. The measure of size used was the square root of the 2005–06 PSS number

of full-time equivalent teachers in the school. Any school with a measure of size larger than the sampling interval was excluded from the probability sampling process and included in the sample with certainty. All of the area frame schools identified in the 2005–06 PSS area frame within noncertainty (selected with probability less than one) PSUs that had not already been added as part of the 2007–08 PSS list frame updating operation were also selected for the sample with certainty. This produced a list frame sample of 2,760 and an area frame sample of 177 schools, totaling 2,937 schools in the SASS private school sample.

SASS Teacher Sample Selection

Selecting the teacher sample in both public and private schools involved the following steps:

- The selected schools were asked to provide teacher lists.
- From the lists, 48,353 public school teachers (including charter and BIE) and 8,231 private school teachers were selected.

The public and private school teacher sample selections are described together because identical methodologies were used. The only differences were in the average number of teachers selected within a school, as shown on table 1.

SASS Teacher Frame

In the 2007–08 SASS, sampled schools were asked to provide a list of their teachers primarily by mail, with nonresponse follow-up conducted primarily by telephone. These teacher lists were sampled weekly. Together, the cumulative list of teacher rosters formed the teacher sampling frame.

Along with the names of its teachers, sampled schools were asked to provide the following descriptive characteristics of each teacher:

- level of experience—teachers in their 1st, 2nd, or 3rd year of teaching during the 2007–08 school year were classified as new teachers, while more experienced teachers were classified into 4–19 (mid-career) and 20+ years of experience (highly experienced);
- teaching status (as defined by school)—teachers were classified by the school as being either full time or part time;
- subject matter taught—teachers were classified as special education, general elementary, math, science, English/language arts, social studies, vocational/technical, or other; and
- expected status next school year—whether the school felt the teacher would likely be teaching at the same school next year.

The above information for each teacher in a selected SASS school comprised the school teacher frame.

Within each sampled school, teachers were stratified into one of five teacher types:

- new teachers expected to stay at their current school;
- mid-career and highly experienced teachers expected to stay at their current school;
- new teachers expected to leave their current school;
- mid-career teachers (4–19 years) expected to leave their current school; or
- highly experienced (20 or more years) teachers expected to leave their current school.

Within-School SASS Teacher Allocation

The goals of the teacher sampling for SASS were to simultaneously achieve the following:

- Select a minimum of 1 and a maximum of 20 teachers per school.
- Select an average of 3 to 8 teachers per school depending upon grade range and sector as shown in the table below.
- Select approximately 1,500 public and 500 private school teachers expected to leave.
- Select a minimum of 2,300 new teachers per sector (public, private). For new teachers in public schools, oversampling was not required due to the large number of sampled schools with new teachers. Therefore, teachers were allocated to the new, mid-career, and highly experienced categories proportional to their numbers in the school. However, for private school teachers, new teachers were oversampled by a factor of 1.5. This factor was used to ensure the sample size goal set per sector was met.
- Minimize the variance of teacher estimates within school stratum by attempting a self-weighting design (all teachers having the same probability of selection). This constraint was relaxed when necessary to accommodate the other goals of teacher sampling.

Table 1.   Average expected number of teachers selected per school, by school level and sector: 2007–08

Sector	Average number of teachers selected by school level		
	Elementary	Secondary	Combined
Public and BIE[1]	3.77	7.54	5.66
Private	3.76	4.69	2.82

[1] BIE refers to the Bureau of Indian Education.
SOURCE: *Documentation for the 2007–08 Schools and Staffing Survey* (NCES 2010-332), Schools and Staffing Survey (SASS), 2007–08, U.S. Department of Education, National Center for Education Statistics.

Before teachers were allocated to the new, mid-career, and highly experienced strata, schools were first allocated an overall number of teachers to be selected. This overall sample size was chosen in order to equalize the teacher weights within school stratum (i.e., state/grade level for public schools and association stratum/level/region for private schools). Teacher weights within stratum were not always equalized, however, due to the differential sampling for new teachers and teachers expected to leave.

The final SASS teacher sample met all the goals presented above with the exception that the targeted number of teachers expected to leave was not met; the proportion of such teachers reported fell short of the expected proportion. Both the unweighted numbers and the weighted estimates are given. The weighted totals are used in the TFS weighting to calculate an adjustment factor. Chapter 7 gives the details of the TFS weighting process. The breakdown of the sample is presented in table 2.

Table 2.   **Final unweighted and weighted number of teachers selected for the SASS teacher sample, by sector: 2007–08**

			Teacher stratum									
	Total		Mid-career and highly experienced, expected stayer		New, expected stayer		Highly experienced, expected leaver		Mid-career, expected leaver		New, expected leaver	
Sector	Unwtd.	Wtd.	Unwtd.	Wtd.	Unwtd.	Wtd.	Unwtd.	Wtd.	Unwtd.	Wtd.	Unwtd.	Wtd.
Total	56,584	3,898,423	43,265	3,125,564	11,402	715,204	812	23,299	546	18,735	559	15,622
Private	8,231	489,546	5,535	373,489	2,235	108,776	112	1,339	177	2,753	172	3,188
Public charter	1,720	69,750	1,064	44,184	599	24,459	7	5	19	385	31	716
Traditional public	46,633	3,339,128	36,666	2,707,890	8,568	581,969	693	21,955	350	15,596	356	11,718

NOTE: Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), 2007–08.

There were 9,795 traditional public and public charter schools selected for the sample in SASS, and from these schools there were 48,353 teachers selected for the sample. There were 2,937 private schools sampled in SASS, and from these schools 8,231 teachers were selected for the sample.

TFS Teacher Sampling Frame, Stratification, and Allocation

TFS Teacher Sampling Frame

The sampling frame for TFS consisted of 44,198 public and private school teachers who preliminarily completed interviews for SASS. Any SASS teacher who did not complete an interview or was otherwise found to be out of scope for SASS was not included in the TFS frame. Because the TFS frame was created before the interview status for SASS was finalized, there were 34 teacher records included on the TFS frame as SASS interviews that subsequently became noninterviews or out of scope for SASS. Teachers from BIE-funded schools were excluded from the sampling frame, thus excluded from this count. This number does not include 75 teachers who were reported to have died or left the country at the time of the teacher status collection in the fall of 2008. Thus, the total number of records on the frame (44,198) does not agree with the total number of interviewed public, public charter, or private school teachers in SASS (44,239).

As described earlier, the purpose of TFS was to measure attrition rates a year after the 2007–08 SASS data collection. In SASS, schools were selected first and then teachers were selected within the sampled schools. The TFS teachers were then selected from the SASS eligible teacher sample.

TFS Teacher Stratification

The TFS sample is a stratified sample that was allocated in order to allow comparisons of teachers by status (stayers, movers, and leavers) within sector (traditional public, public charter, and private), experience group, grade level, and race/ethnicity status (White/non-Hispanic and all other race/ethnicities). For TFS, the responding 2007–08 SASS teachers were stratified by these five variables in the order shown below:

1. Sector (traditional public, public charter, private school indicator)
   o traditional public—teachers who taught in the public school system in the 2007–08 school year;
   o public charter—teachers who taught in a public charter school in the 2007–08 school year; and
   o private—teachers who taught in a private school in the 2007–08 school year.

2. Teacher status (leaver/stayer/mover/unknown indicator)—Each SASS sampled school is mailed a questionnaire asking for current information about the previous year's teachers. The information collected on this form is used to stratify each teacher into the following categories:
   o leavers—teachers in the 2007–08 school year who left the teaching profession before the 2008–09 school year began;
   o stayers—teachers in the 2007–08 school year who remained teachers at the same school for the 2008–09 school year or teachers whose status was not reported (left blank) by the school or whose school did not complete the Teacher Status Form;
   o movers—teachers in the 2007–08 school year who remained teachers for the 2008–09 school year but in a different school or teachers who worked in a school in the 2007–08 school year that closed or merged with another school; and
   o unknowns—teachers whose status was reported by the school as having left, without any other information given.

3. Experience (new/experienced indicator)
   o first year—teachers reporting to be in their 1st year of teaching in the 2007–08 school year;
   o other new—teachers who had more than 1 but less than 4 years of teaching experience completed at the end of the 2007–08 school year; and
   o experienced—teachers who had at least 4 years of teaching experience completed at the end of the 2007–08 school year.

4. Teacher's grade level (elementary/middle/secondary indicator)
   o elementary—teachers who taught elementary school students (any grade K–8, but at least one of grades K–4) in the 2007–08 school year regardless of the level of the school in which they taught;
   o middle—teachers who taught middle school students (grades 5–8 exclusively) in the 2007–08 school year regardless of the level of the school in which they taught; and
   o secondary—teachers who taught secondary school students (any grade 6–12, but at least one of grades 9–12) in the 2007–08 school year regardless of the level of the school in which they taught.

5. Race/ethnicity status (non-Hispanic White and all other race/ethnicities indicator)
   o White, non-Hispanic; and
   o all other race/ethnicities—teacher with any racial/ethnic background other than White, non-Hispanic.

The characteristics defined above are used in all aspects of the TFS sampling. The experience level variable was altered for 2008–09 TFS as compared to previous rounds of TFS to incorporate the Beginning Teacher Longitudinal Study (BTLS) sample's first year cohort. The results of this stratification are shown in table 3.

Table 3. **TFS sampling frame counts for teachers by sector, teacher status, teacher's grade level, teacher experience, and race/ethnicity status: 2008–09**

Teacher status, teacher's grade level, teacher experience, and race/ethnicity status	Total	Sector		
		Traditional public	Public charter	Private
Total	44,198	36,981	1,233	5,984
Leavers[1] (total)	3,822	2,822	181	819
Elementary (total)	1,158	691	60	407
First year				
White, non-Hispanic	90	47	8	35
All other race/ethnicities	22	12	1	9
Other new				
White, non-Hispanic	164	80	13	71
All other race/ethnicities	45	20	6	19
Experienced				
White, non-Hispanic	698	454	21	223
All other race/ethnicities	139	78	11	50
Middle (total)	812	596	52	164
First year				
White, non-Hispanic	53	37	1	15
All other race/ethnicities	19	13	3	3
Other new				
White, non-Hispanic	91	57	8	26
All other race/ethnicities	27	21	3	3
Experienced				
White, non-Hispanic	519	392	27	100
All other race/ethnicities	103	76	10	17
Secondary (total)	1,852	1,535	69	248
First year				
White, non-Hispanic	151	106	8	37
All other race/ethnicities	44	34	1	9
Other new				
White, non-Hispanic	226	171	18	37
All other race/ethnicities	61	46	2	13
Experienced				
White, non-Hispanic	1,177	1,016	25	136
All other race/ethnicities	193	162	15	16
Movers (total)	3,195	2,708	111	376
Elementary (total)	1,032	791	34	207
First year				
White, non-Hispanic	94	74	3	17
All other race/ethnicities	25	18	2	5
Other new				
White, non-Hispanic	190	128	8	54
All other race/ethnicities	34	26	1	7
Experienced				
White, non-Hispanic	579	464	13	102
All other race/ethnicities	110	81	7	22

See notes at end of table.

Table 3.   TFS sampling frame counts for teachers by sector, teacher status, teacher's grade level, teacher experience, and race/ethnicity status: 2008–09—Continued

Teacher status, teacher's grade level, teacher experience, and race/ethnicity status	Total	Sector		
		Traditional public	Public charter	Private
Movers—Continued				
Middle (total)	764	638	26	100
First year				
White, non-Hispanic	54	43	4	7
All other race/ethnicities	9	8	0	1
Other new				
White, non-Hispanic	113	87	6	20
All other race/ethnicities	34	26	1	7
Experienced				
White, non-Hispanic	463	394	9	60
All other race/ethnicities	91	80	6	5
Secondary (total)	1,399	1,279	51	69
First year				
White, non-Hispanic	118	103	6	9
All other race/ethnicities	31	25	2	4
Other new				
White, non-Hispanic	216	194	11	11
All other race/ethnicities	50	44	4	2
Experienced				
White, non-Hispanic	842	783	21	38
All other race/ethnicities	142	130	7	5
Stayers (total)	37,181	31,451	941	4,789
Elementary (total)	11,225	8,447	341	2,437
First year				
White, non-Hispanic	453	292	22	139
All other race/ethnicities	90	47	14	29
Other new				
White, non-Hispanic	1,120	761	51	308
All other race/ethnicities	237	144	19	74
Experienced				
White, non-Hispanic	8,135	6,323	173	1,639
All other race/ethnicities	1,190	880	62	248
Middle (total)	7,522	6,298	193	1,031
First year				
White, non-Hispanic	308	238	14	56
All other race/ethnicities	73	52	10	11
Other new				
White, non-Hispanic	757	595	32	130
All other race/ethnicities	159	116	10	33
Experienced				
White, non-Hispanic	5,428	4,620	97	711
All other race/ethnicities	797	677	30	90

See notes at end of table.

Table 3.   TFS sampling frame counts for teachers by sector, teacher status, teacher's grade level, teacher experience, and race/ethnicity status: 2008–09—Continued

Teacher status, teacher's grade level, teacher experience, and race/ethnicity status	Total	Sector		
		Traditional public	Public charter	Private
Stayers—Continued				
Secondary (total)	18,434	16,706	407	1,321
First year				
White, non-Hispanic	790	693	23	74
All other race/ethnicities	141	121	11	9
Other new				
White, non-Hispanic	1,879	1,652	67	160
All other race/ethnicities	325	268	27	30
Experienced				
White, non-Hispanic	13,471	12,331	218	922
All other race/ethnicities	1,828	1,641	61	126

[1] Teachers classified as having an unknown status are included in the leaver category in this table since most of them are found to be leavers.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), Unpublished Sampling Frame, 2008–09.

TFS Teacher Allocation

The 2008–09 TFS sample was allocated to strata to best achieve the goals of the sampling design. To accomplish this, the following rules were applied:

- Optimize the reliability of public 1st-year teacher estimates by selecting all public 1st-year teachers.
- Optimize the reliability of comparisons of current versus former teachers (i.e., leavers versus nonleavers) by selecting about 46 percent of leavers.
- Optimize the comparison of movers versus nonmovers (stayers) by selecting about 46 percent of private school movers.
- Optimize the reliability of comparisons of White, non-Hispanic versus all other race/ethnicities movers.

To that end, the following procedures were applied:

- Select approximately 32 percent of the traditional public and public charter all other race/ethnicities movers.
- Select approximately 23 percent of the traditional public and public charter White, non-Hispanic movers.

Since teachers with an unknown status could be movers or leavers, sample using the mover sampling rate, as follows:

- Select approximately 46 percent of private school teachers with an unknown status.
- Select approximately 32 and 23 percent respectively of all other race/ethnicities and White, non-Hispanic traditional public and public charter school teachers with an unknown status.

Select a fixed sample size of stayers as follows in order to optimize the comparison of stayers versus movers or leavers and to increase the number of reporting categories for publication:

- Select 792 traditional non-1st-year public school stayers (approximately 2.6 percent of teachers in this category on the sampling frame);
- Select 61 public charter school non-1st-year stayers (approximately 7.2 percent of teachers in this category on the sampling frame); and
- Select 445 private school stayers (approximately 9.3 percent of teachers in this category on the sampling frame).

Once the sample sizes were determined at the status/sector/race level based on these rules, the sample was allocated to strata proportional to the cumulative measure of size (SASS teacher initial final weight) within each stratum relative to the cumulative measure of size of the status/sector/race level. This maximizes the reliability of status/sector/race estimates.

The final TFS sample allocation is shown below in table 4. Note that the actual selected sample was the same as the allocated sample for TFS.

Table 4.   Final allocated TFS sample sizes for teachers by sector, teacher status, teacher's grade level, teacher experience, and race/ethnicity status: 2008–09

Teacher status, teacher's grade level, teacher experience, and race/ethnicity status	Total	Sector		
		Traditional public	Public charter	Private
Total	5,596	4,281	282	1,033
Leavers[1] (total)	1,687	1,203	81	403
Elementary (total)	643	438	28	177
First year				
White, non-Hispanic	67	47	8	12
All other race/ethnicities	17	12	1	4
Other new				
White, non-Hispanic	62	29	4	29
All other race/ethnicities	19	10	3	6
Experienced				
White, non-Hispanic	387	278	7	102
All other race/ethnicities	91	62	5	24
Middle (total)	431	328	25	78
First year				
White, non-Hispanic	45	37	1	7
All other race/ethnicities	18	13	3	2
Other new				
White, non-Hispanic	33	17	4	12
All other race/ethnicities	15	10	2	3
Experienced				
White, non-Hispanic	272	213	11	48
All other race/ethnicities	48	38	4	6

See notes at end of table.

Table 4. **Final allocated TFS sample sizes for teachers by sector, teacher status, teacher's grade level, teacher experience, and race/ethnicity status: 2008–09—Continued**

Teacher status, teacher's grade level, teacher experience, and race/ethnicity status	Total	Sector		
		Traditional public	Public charter	Private
Leavers—Continued				
Secondary (total)	613	437	28	148
First year				
White, non-Hispanic	134	106	8	20
All other race/ethnicities	41	34	1	6
Other new				
White, non-Hispanic	56	27	5	24
All other race/ethnicities	18	9	2	7
Experienced				
White, non-Hispanic	304	217	6	81
All other race/ethnicities	60	44	6	10
Movers (total)	1,074	843	46	185
Elementary (total)	454	347	16	91
First year				
White, non-Hispanic	84	74	3	7
All other race/ethnicities	22	18	2	2
Other new				
White, non-Hispanic	62	38	3	21
All other race/ethnicities	19	15	1	3
Experienced				
White, non-Hispanic	224	171	4	49
All other race/ethnicities	43	31	3	9
Middle (total)	287	224	12	51
First year				
White, non-Hispanic	50	43	4	3
All other race/ethnicities	9	8	0	1
Other new				
White, non-Hispanic	26	16	2	8
All other race/ethnicities	13	8	1	4
Experienced				
White, non-Hispanic	147	112	3	32
All other race/ethnicities	42	37	2	3
Secondary (total)	333	272	18	43
First year				
White, non-Hispanic	112	103	6	3
All other race/ethnicities	30	25	2	3
Other new				
White, non-Hispanic	26	18	2	6
All other race/ethnicities	9	5	2	2
Experienced				
White, non-Hispanic	130	99	4	27
All other race/ethnicities	26	22	2	2

See notes at end of table.

Table 4.   Final allocated TFS sample sizes for teachers by sector, teacher status, teacher's grade level, teacher experience, and race/ethnicity status: 2008–09—Continued

Teacher status, teacher's grade level, teacher experience, and race/ethnicity status	Total	Sector		
		Traditional public	Public charter	Private
Stayers (total)	2,835	2,235	155	445
Elementary (total)	938	679	63	196
First year				
White, non-Hispanic	322	292	22	8
All other race/ethnicities	63	47	14	2
Other new				
White, non-Hispanic	51	25	4	22
All other race/ethnicities	13	6	2	5
Experienced				
White, non-Hispanic	414	261	15	138
All other race/ethnicities	75	48	6	21
Middle (total)	630	496	39	95
First year				
White, non-Hispanic	256	238	14	4
All other race/ethnicities	64	52	10	2
Other new				
White, non-Hispanic	30	17	3	10
All other race/ethnicities	9	4	2	3
Experienced				
White, non-Hispanic	230	155	8	67
All other race/ethnicities	41	30	2	9
Secondary (total)	1,267	1,060	53	154
First year				
White, non-Hispanic	724	693	23	8
All other race/ethnicities	134	121	11	2
Other new				
White, non-Hispanic	38	20	3	15
All other race/ethnicities	9	4	2	3
Experienced				
White, non-Hispanic	313	191	11	111
All other race/ethnicities	49	31	3	15

[1] Teachers classified as having an unknown status are included in the leaver category in this table since most of them are found to be leavers.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), "TFS Sample File," 2008–09.

TFS Teacher Sample Selection

Sorting

Within each TFS stratum, teachers who had completed interviews (i.e., had a final Interview Status Recode [ISR] = 1) in the 2007–08 SASS were sorted by measure of size, subject taught, Census region, affiliation strata (private teachers only), school locale, school enrollment, and SASS teacher control number to achieve a random, balanced sample. The variables used in the sort are described below:

1. Measure of size—the 2007–08 SASS teacher final weight prior to corrections (inverse of the probability of selection adjusted for nonresponse and changes to the sampling frame but prior to completion of the weighting process).

2. Recoded teacher subject (based on SASS teacher responses)—the main subject that a teacher taught during the 2007–08 school year:
    o special education;
    o general elementary;
    o math;
    o science;
    o English/language arts;
    o social studies;
    o vocational/technical; or
    o other.

3. Census region—the region in which the SASS school is located:
    o Northeast (Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont);
    o Midwest (Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin);
    o South (Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia); or
    o West (Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming).

4. Recoded affiliation stratum (private school teachers only, based on the SASS private school stratification)—the affiliation with which the school is associated, including:
    o Catholic—parochial;
    o Catholic—diocesan;
    o Catholic—private;
    o Baptist;
    o Jewish;
    o Lutheran;
    o Seventh-day Adventist;
    o other religious;
    o nonsectarian—regular;
    o nonsectarian—special emphasis; or
    o nonsectarian—special education.

5. Locale based on 2000 Census geography—the area in which the SASS school is located. The categories are as follows:
    11 = city, large: territory inside an urbanized area and inside a principal city with population of 250,000 or more;
    12 = city, mid-size: territory inside an urbanized area and inside a principal city with population less than 250,000 and greater than or equal to 100,000;
    13 = city, small: territory inside an urbanized area and inside a principal city with population less than 100,000;
    21 = suburb, large: territory inside an urbanized area and outside a principal city with population of 250,000 or more;

22 = suburb, mid-size: territory inside an urbanized area and outside a principal city with population less than 250,000 and greater than or equal to 100,000;

23 = suburb, small: territory inside an urbanized area and outside a principal city with population less than 100,000;

31 = town, fringe: territory inside an urban cluster that is less than or equal to 10 miles from an urbanized area;

32 = town, distant: territory inside an urban cluster that is more than 10 miles and less than or equal to 35 miles from an urbanized area;

33 = town, remote: territory inside an urban cluster that is more than 35 miles from an urbanized area;

41 = rural, fringe: Census-defined rural territory that is less than or equal to 5 miles from an urbanized area, as well as rural territory that is less than or equal to 2.5 miles from an urban cluster;

42 = rural, distant: Census-defined rural territory that is more than 5 miles but less than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but less than or equal to 10 miles from an urban cluster;

43 = rural, remote: Census-defined rural territory that is more than 25 miles from an urbanized area, as well as rural territory that is more than 10 miles from an urban cluster;

6. School enrollment—the number of students enrolled in the school during the 2007–08 school year.

7. Teacher control number—number assigned to each 2007–08 SASS sampled teacher.

Sample Selection

After the teachers were sorted using the above variables, they were selected within each stratum using a systematic probability proportional to size sampling procedure. This procedure is similar to that used in the SASS school selection. Any teacher with a measure of size (SASS teacher initial final weight) greater than the sampling interval was included in the sample with certainty (automatically included). Since TFS selection probabilities are not conditioned on anything, the selected sample sizes equaled the allocated sample size.

Chapter 4. Data Collection

The U.S. Census Bureau conducted the 2008–09 Teacher Follow-up Survey (TFS) during the 2008–09 school year. The TFS data collection began with teacher sampling procedures: schools were mailed a Teacher Status Form (Form TFS-1) (see appendix E) to complete by indicating the occupational or teacher status of each teacher listed on the form. If a school did not respond to the Teacher Status Form, those teachers were still eligible for sampling in TFS. A sample of teachers was then selected and invited to participate in the 2008–09 TFS. The TFS data were primarily collected using an Internet instrument. At the beginning of data collection, paper questionnaires were mailed only to Amish and Mennonite teachers. Telephone follow-up efforts were conducted to encourage participation or to collect TFS data over the phone. Throughout the telephone follow-up, paper questionnaires were mailed upon request. Finally, paper questionnaires were mailed to teachers who had not yet completed the survey.

Overview of Data Collection Procedures

TFS data collection began as part of a sample selection operation in the fall of 2008. The Teacher Status Form was mailed to each school that had at least one teacher who participated in the 2007–08 Schools and Staffing Survey (SASS). A knowledgeable person at the school (e.g., a school administrator, a member of the office staff) was asked to complete the Teacher Status Form by indicating the current teaching or other occupational status of each teacher listed on the form. The sample for TFS was selected based on the status of teachers obtained in the Teacher Status Form operation.[8] For additional information about the sample selection procedures for TFS, see chapter 3.

Because contacting teachers by mail and telephone were the primary methods for informing teachers of the Internet instrument, valid contact information was needed. The contact information that was typically used was the home address and telephone number that the respondent provided on the 2007–08 SASS teacher questionnaires. However, because some respondents did not provide contact information on SASS, U.S. Census Bureau clerical staff conducted an initial address and telephone number research operation in order to obtain valid contact information so that the letters could be mailed and follow-up calls could be made. A similar operation was used to locate addresses for cases that were returned by the post office as "undeliverable as addressed" (UAA).

In February 2009, all teachers (except Amish and Mennonite teachers) were mailed a letter inviting their participation in TFS using an Internet instrument. The letters contained the URL to the survey, along with a username and password to access their survey on a secure server. At the same time, teachers who provided e-mail address(es) on their 2007–08 SASS Teacher or Private School Teacher Questionnaire were sent a similar e-mail invitation. Amish and Mennonite teachers were mailed a separate letter and a paper questionnaire. In March 2009, a reminder letter was sent to all teachers (except Amish and Mennonite teachers who were mailed a separate letter and another paper questionnaire). E-mail reminders were sent to nonrespondents at various times during the entire data collection period.

Before telephone follow-up began in late March, approximately 76 percent of respondents had not completed the TFS questionnaire. U.S. Census Bureau telephone center staff was responsible for following up with the individuals who had not responded to either encourage participation or complete the interview over the telephone. Telephone follow-up was conducted from late March 2009 through July 2009.

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[8] The primary focus was to distinguish between teachers still teaching at the same school as in the 2007–08 school year, teachers who moved to new schools, and teachers no longer teaching in grades pre-K–12.

In late April 2009, approximately 1 month after telephone follow-up began, paper questionnaires were mailed to all nonrespondents. In late May 2009, letters were mailed to respondents who had partially completed the Internet survey encouraging them to complete it. A second paper questionnaire was mailed to nonrespondents in early June 2009.

The U.S. Census Bureau Headquarters staff in Washington, DC was responsible for retrieving the Internet data on a daily basis; the Census Bureau processing staff in Jeffersonville, Indiana, was responsible for checking-in completed paper questionnaires, capturing data, and implementing quality control procedures. An overview of the purpose and content of each TFS questionnaire is discussed in chapter 1. The preparation for the 2008–09 TFS is described in chapter 2.

Timing of TFS Data Collection

Data collection for the 2008–09 TFS began in September 2008 and continued through July 2009. Table 5 summarizes the specific data collection activities and the time frame in which each occurred.

Table 5.   TFS data collection time schedule: 2008–09

Activity	Date of activity
Teacher Status Forms (Form TFS-1) and letters mailed to sampled schools	September 2008
Reminder postcards for the Teacher Status Form mailed to sampled schools	October 2008
Nonresponse follow-up of schools that did not return the Teacher Status Form	November 2008
Address research operation (before mailout)	December 2008
Initial mailing inviting participation in the survey	February 2009
Initial mailing of TFS paper questionnaires for Amish and Mennonite teachers	February 2009
Initial e-mail inviting participation in the survey	February 2009
Reminder mailing of letter inviting participation in the survey	March 2009
Reminder mailing of TFS paper questionnaires for Amish and Mennonite teachers	March 2009
First and second reminder e-mails	March 2009
Telephone follow-up for all nonrespondents	March 2009–July 2009
Third and fourth reminder e-mails	April 2009
Paper questionnaire mail-out to all nonrespondents	April 2009
Undeliverable as addressed (UAA) address research operation and mail-out	Ongoing
Fifth and sixth reminder e-mails	May 2009
Letter mail-out to all teachers who had partially completed the Internet survey (including all of the critical items)	May 2009
Second paper questionnaire mail-out to all nonrespondents via Federal Express	June 2009
Seventh reminder e-mail	June 2009
Eighth reminder e-mail	July 2009

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 2008–09.

Data Collection Procedures for TFS

Collecting Teacher Status Information

In September 2008, the Census Bureau's clerical processing staff mailed a Teacher Status Form to sampled schools that provided lists of teachers during the 2007–08 SASS. The schools were asked to complete the form by indicating whether each teacher listed was still teaching in that school (stayer), was

teaching in another school (mover), or had left teaching (leaver). This teacher status was needed to select the sample for TFS. If the school did not respond to the Teacher Status Form, the teachers were still eligible for sampling. These teachers were assumed to be stayers for sampling purposes.

One week after the Teacher Status Form mailing, reminder postcards were sent to the sampled schools. Before telephone follow-up began, approximately 35 percent of schools had not completed a Teacher Status Form. Census Bureau clerical staff was responsible for the nonresponse follow-up for these cases. Nonresponse efforts consisted of staff following a script to make telephone calls to the schools in order to obtain teacher status information. Staff documented each call attempt by entering an outcome code in a call record; this outcome code indicated what had happened during each follow-up attempt (e.g., a complete interview was collected, a partial interview was collected, the school refused to participate, etc.). The final response rate for the Teacher Status Form operation was 98.5 percent. For further information about the Teacher Status Form operation and TFS sample selection procedures refer to chapter 3.

Address Research Operations

The U.S. Census Bureau would not be able to mail letters or questionnaires to movers and leavers who did not provide a home address in the 2007–08 SASS Teacher or Private School Teacher Questionnaire. In December 2008, clerical staff began an address research operation to obtain contact information by searching various online databases and by calling the sampled teacher's contact person(s) and former school. On the 2007–08 SASS teacher questionnaires, the sampled teacher was asked to provide the address and telephone number of two people who would know how to get in touch with him or her during the coming years. Clerical staff researched the teacher's home address, work address, and/or telephone numbers using both contact persons provided. If a new address was found, the new address was used for the initial mailing in February 2009. If no address was found, the correspondence was mailed to the teacher's former school address.

After the initial mailing, cases that were returned to the U.S. Census Bureau's clerical processing center as "Undeliverable as Addressed" by the post office were sent to clerical staff for address research. If a new address was found, the correspondence was re-sent to the new address on a weekly basis. If no new address was found, follow-up continued by telephone and by e-mail, when possible. When follow-up was not possible by telephone or e-mail, NCES used additional locating resources to attempt to obtain contact information.

Initial Contacts to Current and Former Teachers

In February 2009, all teachers were mailed a letter inviting their participation in TFS. At the same time, similar e-mails were sent to respondents for whom the U.S. Census Bureau had e-mail addresses. The invitation explained the purpose of the survey and included the URL, along with a username and password to access the survey on the Internet, a statement of authority, and assurance of confidentiality.

Amish and Mennonite teachers received a separate letter and a paper version of either the Questionnaire for Former Teachers or the Questionnaire for Current Teachers. The Questionnaire for Former Teachers was sent to sampled persons who were reported by school administrators as having left the K–12 teaching profession (leavers). The Questionnaire for Current Teachers was sent to sampled persons who were reported as still teaching at the elementary or secondary level, either in the same school as last year (stayers) or in a different school (movers). All questionnaires were sent to the home address when one was provided in the 2007–08 SASS teacher questionnaires. Otherwise, questionnaires were sent to the 2007–08 SASS school address.

Follow-up Contacts

Reminder letters were sent to all teachers in March 2009. At the same time, reminder e-mails were sent to nonrespondents for whom the U.S. Census Bureau had an e-mail address. Amish and Mennonite nonrespondents were mailed a second copy of the questionnaire, while all other nonrespondents received a letter and an e-mail with the URL link to the survey. Second reminder letters with a paper questionnaire were sent to all nonrespondents in late April 2009. In late May 2009, letters were mailed to respondents who had partially completed the Internet survey encouraging them to fully complete it. Lastly, in early June 2009, third reminder letters with a paper questionnaire were mailed to nonrespondents via Federal Express.

"Switchers"

Because previous administration relied almost entirely on paper questionnaires, many respondents would return the paper questionnaire they received indicating that it did not apply to them. This would happen when the sampled teacher's SASS school incorrectly reported the sampled teacher's current teaching status on the Teacher Status Form. These cases were referred to as "switcher" cases. For example, if sampled Teacher A's 2007–08 school reported her as having left the teaching profession, she was known as a "leaver" and was mailed a Questionnaire for Former Teachers. However, it may have been the case that this teacher left her 2007–08 SASS school and was working as a teacher elsewhere during the 2008–09 school year. This would make her a "mover," which would mean she was currently teaching and should complete a Questionnaire for Current Teachers (rather than the Questionnaire for Former Teachers that was mailed to her).

Teacher A is called a "switcher." In the case of switchers, the sampled teacher, Teacher A, was instructed to return the incorrect form that she received (in this case, a Questionnaire for Former Teachers) to clerical processing staff who would then send her the correct form (a Questionnaire for Current Teachers) for completion.

This problem was decreased during the 2008–09 TFS by initially providing only the Internet survey to all non-Amish and non-Mennonite teachers, in lieu of a paper questionnaire. The Internet instrument contained both the current and former teacher questionnaires. Respondents' answers to the initial screening questions determined whether they followed the former teacher or the current teacher questionnaire path. In addition, the Internet instrument automated skip patterns and presented the appropriate questions based on the respondent's answers. When a "switcher" was discovered via a paper questionnaire, either because the teacher was Amish or Mennonite or in response to the late mailing of the paper questionnaires, clerical processing staff sent the correct form for completion.

Nonresponse Follow-up

Telephone follow-up efforts began in March 2009. A case was included in nonresponse follow-up if the respondent had not completed the questionnaire on the Internet or returned a completed paper questionnaire. Nonresponse efforts consisted of telephone calls to the respondent encouraging him or her to participate in the survey. Telephone center staff also offered to conduct the interview over the phone, in which case the interviewer would key the data directly into the Internet survey. Paper questionnaires were mailed upon request. All follow-up activities were completed by the telephone center. There were no personal visits by field representatives for the 2008–09 TFS.

After a follow-up action was completed (e.g., conducted an interview, left a message, logged a paper questionnaire request), the telephone center interviewer recorded the outcome code and notes onto the call log associated with the case. Progress reports for the nonresponse cases were produced twice weekly.

Information about questionnaire check-in, data capture methods used to convert data from paper to electronic format, and criteria for determining final response rates can be found in chapter 6.

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Chapter 5. Response Rates

This chapter presents the overall survey, or "unit," and item response rates for the 2008–09 Teacher Follow-up Survey (TFS). The unit response rates for each TFS survey population are presented in detail, and the item response rates for survey items on the Former Teacher and Current Teacher Data Files are summarized. The unit and item response rates discussed throughout this chapter include beginning teachers who received the TFS-3L and TFS-2L questionnaires and non-beginning teachers who received the TFS-3 and TFS-2 questionnaires.[9] Beginning teachers received a more extensive questionnaire as part of the Beginning Teacher Longitudinal Study (BTLS). As noted in chapter 1, this set of teachers is included in both the TFS and BTLS samples. However, the additional items asked of beginning teachers only appear on the BTLS dataset. Please refer to the BTLS Documentation report[10] for additional information.

Nonresponse bias analyses were conducted on both the survey population (i.e., current or former teacher) and the individual items for TFS. These analyses are described and the major findings are presented following the response rate sections.

Survey Population Response Rates

Sampled cases fall into one of three categories: a completed interview, a noninterview, or out of scope. A completed interview means that a sampled teacher who met the criteria for inclusion in TFS (i.e., completed a 2007–08 Schools and Staffing Survey [SASS] teacher questionnaire and was living in the United States) substantially completed[11] the appropriate TFS questionnaire (i.e., the former teacher questionnaire or the current teacher questionnaire). Noninterviews refer to sampled teachers who met the criteria for inclusion in TFS, but did not complete the questionnaire. Out-of-scope cases were deemed ineligible to participate in TFS and were not included in the TFS sample. SASS respondents were designated as out of scope if they moved out of the United States following the 2007–08 school year, were deceased, or had never been teachers (i.e., incorrectly reported their teaching status in the 2007–08 SASS).

A unit response rate is the rate at which the sampled units responded by sufficiently completing the questionnaire. Unit response rates can be calculated as unweighted or base weighted. The unweighted response rates are the number of interviewed cases divided by the number of eligible sampled units (i.e., including interviews and noninterviews, but not out-of-scope cases). The base-weighted response rates are the base-weighted (initial basic weight multiplied by the sampling adjustment factor) number of interviewed cases divided by the base-weighted number of eligible cases. The initial base weight for each sampled unit is the inverse of the probability of selection. For further discussion of the weighting procedures followed for the 2008–09 TFS, refer to chapter 7.

Tables 6, 7, and 8 summarize the base-weighted and unweighted response rates for cases in the 2008–09 TFS by data file and by the sector of the teacher's base-year school (i.e., public or private). The response rate tables are useful as indicators for possible nonresponse bias. The unweighted response rates provide

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[9] TFS-2 is the questionnaire for former teachers other than those who were first-year teachers in 2007–08. TFS-3 is the questionnaire for current teachers other than those who were first-year teachers in 2007–08. TFS-2L is the questionnaire for former teachers who first taught in 2007–08. TFS-3L is for current teachers who first taught in 2007–08.
[10] The BTLS Documentation report is expected to be released in the fall of 2011.
[11] To be classified as a completed interview, the respondent had to answer three required questions on the Former Teacher Questionnaire or three required questions on the Current Teacher Questionnaire. (See the "Final Interview Status Edit" section in chapter 6 for more details.)

an indication of the general success of the data collection efforts, while the base-weighted response rates provide measures of the quality of the data and the potential for nonresponse bias.

The base-weighted unit response rate for all teachers in the 2008–09 TFS was 87.9 percent. Table 6 summarizes the unweighted and base-weighted response rates for cases in the 2008–09 TFS by the sector of the teacher's base-year school (i.e., public or private) and by data file (i.e., current or former teachers).

The response rate for current teachers (shown in tables 6 and 7) includes teachers who stayed in the same school during the 2008–09 school year (stayers) and those who moved to a new school (movers). Both stayers and movers completed the current teacher questionnaire. The base-weighted response rate for current teachers who completed the current teacher questionnaire was 88.2 percent. The base-weighted response rate for former teachers who completed the former teacher questionnaire was slightly lower at 84.7 percent.

Table 6.   Unweighted and base-weighted response rates of teachers, by sector and teaching status: 2008–09

Sector and teaching status	Unweighted response rate	Base-weighted response rate
Total	85.5	87.9
Current teacher	87.0	88.2
Stayer	88.9	88.6
Mover	82.1	84.7
Former teacher	81.4	84.7
Public	86.1	88.1
Current teacher	87.5	88.4
Stayer	89.0	88.7
Mover	83.6	85.6
Former teacher	81.9	84.8
Private	82.6	86.7
Current teacher	84.4	87.1
Stayer	88.1	87.8
Mover	73.8	75.9
Former teacher	79.7	84.4

NOTE: The public sector includes teachers from traditional public and public charter schools. Base-weighted response rates use the inverse of the probability of selection and the sampling adjustment factor.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), "Former and Current Teacher Documentation Data Files," 2008–09.

Tables 7 and 8 present the overall response rate, which represents the response rate to the survey taking into consideration each stage of data collection. For a teacher to be eligible for TFS, it was necessary to have received the Teacher Listing Form from the school during the 2007–08 SASS data collection, which provided a sampling frame for teachers at that school, and for the teacher to have responded to the SASS teacher questionnaire. This overall response rate is the product of the survey response rates: (SASS Teacher Listing Form response rate) x (SASS teacher questionnaire response rate) x (TFS questionnaire response rate).

Table 7. **Base-weighted response rates for SASS teacher data files and TFS Current Teacher data file, by sector: 2007–08 and 2008–09**

Sector	Base-weighted 2007–08 SASS Teacher Listing Form response rate	Base-weighted 2007–08 SASS teacher data file response rate	Base-weighted 2008–09 TFS Current Teacher data file response rate			Overall base-weighted 2008–09 TFS Current Teacher data file response rate		
			Total	Stayer	Mover	Total	Stayer	Mover
Total	85.9	83.3	88.3	88.6	84.7	63.2	63.4	60.6
Public	86.2	84.0	88.4	88.7	85.6	64.0	64.2	62.0
Private	85.1	77.5	87.1	87.8	75.9	57.4	57.9	50.0

NOTE: The public sector includes teachers from traditional public and public charter schools.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public and Private School Teacher Documentation Data Files," 2007–08, and Teacher Follow-up Survey (TFS), "Current Teacher Documentation Data File," 2008–09.

Table 8. **Base-weighted response rates for SASS teacher data files and TFS Former Teacher data file, by sector: 2007–08 and 2008–09**

Sector	Base-weighted 2007–08 SASS Teacher Listing Form response rate	Base-weighted 2007–08 SASS teacher data file response rate	Base-weighted 2008–09 TFS Former Teacher data file response rate	Overall base-weighted 2008–09 TFS Former Teacher data file response rate
Total	85.9	83.3	84.7	60.6
Public	86.2	84.0	84.8	61.4
Private	85.1	77.5	84.4	55.7

NOTE: The public sector includes teachers from traditional public and public charter schools.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public and Private School Teacher Documentation Data Files," 2007–08, and Teacher Follow-up Survey (TFS), "Former Teacher Documentation Data File," 2008–09.

Item Response Rates

Item response rates indicate the percentage of respondents who answered a given survey question, or item. The final-weighted TFS item response rates are produced by dividing the number of sampled teachers who responded to an item by the number of sampled teachers who were eligible to answer that item, adjusting by the final weight. For all TFS items, a counted response is any item that is not missing and that has a value of "0" for the associated imputation flag. For detailed information on imputations performed on TFS data files, see chapter 6.

The base-weighted item response rates for former teachers ranged from 74.4 percent to 100 percent, and the final-weighted item response rates ranged from 75.3 percent to 100 percent. The base-weighted item response rates for current teachers ranged from 74.8 percent to 100 percent, and the final-weighted item response rates ranged from 73.7 percent to 100 percent. For former teachers, 25 items had a base-weighted response rate of less than 85 percent, and 33 items had a final-weighted response rate of less that 85 percent. For current teachers, 4 items had a base-weighted response rate of less than 85 percent, and 4 items had a final-weighted response rate of less that 85 percent.

Table 9 provides a brief summary of the base-weighted item response rates for both survey populations. Table 10 provides information about the TFS items that have a base-weighted response rate below

85 percent. Similarly, table 11 provides a brief summary of the final-weighted item response rates for both survey populations, and table 12 provides information about the TFS items that have a final-weighted response rate below 85 percent. Since the item response rates in tables 9 and 11 are weighted, they do not reflect additional response loss due to respondents' refusal to participate in the survey.

Table 9.   Summary of base-weighted item response rates, by survey population: 2008–09

Survey population	Range of item response rate	Percentage of items with a response rate of 85.0 percent or more	Percentage of items with a response rate of 70.0–84.9 percent	Percentage of items with a response rate of less than 70.0 percent
Current teacher	74.8–100	95.0	5.0	0.0
Former teacher	74.4–100	69.9	30.1	0.0

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), "Former and Current Teacher Documentation Data Files," 2008–09.

Table 10.   Items with base-weighted response rates of less than 85 percent, by survey population: 2008–09

Survey population	Item number
Current teacher	4, ZIP; 4, District; 4, County; 15, Amount
Former teacher	5C; 8; 9, Amount; 15A–15T; 18C; 18D

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), "Former and Current Teacher Documentation Data Files," 2008–09.

Table 11.   Summary of final-weighted item response rates, by survey population: 2008–09

Survey population	Range of item response rate	Percentage of items with a response rate of 85.0 percent or more	Percentage of items with a response rate of 70.0–84.9 percent	Percentage of items with a response rate of less than 70.0 percent
Current teacher	73.7–100	95.0	5.0	0.0
Former teacher	75.3–100	60.2	39.8	0.0

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), "Former and Current Teacher Documentation Data Files," 2008–09.

Table 12.   Items with final-weighted response rates of less than 85 percent, by survey population: 2008–09

Survey population	Item number
Current teacher	4, Street; 4, ZIP; 4, District; 15, Amount.
Former teacher	5B; 5C; 8; 9, Amount; 12A; 12B; 12C; 12BB; 12CC; 12EE; 15A–T; 18C; 18D; 18E

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), "Former and Current Teacher Documentation Data Files," 2008–09.

Nonresponse Bias Analysis

A comprehensive nonresponse bias analysis was conducted for the 2008–09 TFS. The analysis evaluated the extent of potential bias introduced by teacher nonresponse at both unit and item levels, and the extent to which noninterview weighting adjustments mitigated bias at the unit level.

Unit-level Nonresponse

Overview of Methodology

Because NCES Statistical Standard 4-4 requires analysis of unit nonresponse bias for any survey stage with a base-weighted response rate of less than 85 percent, all 2007–08 SASS teacher data files were evaluated for potential bias. Comparisons between the frame and respondent populations were made before and after the noninterview weighting adjustments were applied in order to evaluate the extent to which the adjustments reduced or eliminated nonresponse bias. For detailed information and results for the unit bias analysis of the 2007–08 SASS, see chapter 6 of the *Documentation for the 2007–08 Schools and Staffing Survey* (NCES 2010-332). In addition, a unit nonresponse bias analysis was conducted on the 2008–09 TFS Current and Former Teacher data files for stayers (teachers who remained in the same school as the 2007–08 school year), movers (teachers who moved to a different school for the 2008–09 school year), and leavers (former teachers who are not currently teaching in any of grades pre-K–12). The teacher's status as identified by the base year principal on the Teacher Status Form (TFS-1) was used for the analysis. The following section explains the methodology and summarizes the conclusions.

As outlined in appendix B of the *NCES Statistical Standards* (U.S. Department of Education 2003), the degree of nonresponse bias is a function of two factors: the nonresponse rate and how much the respondents and nonrespondents differ on survey variables of interest. The mathematical formulation to estimate bias for a sample mean of variable y is as follows:

$$B(\bar{y}_R) = \bar{y}_R - \bar{y}_T = \left(\frac{n_M}{n_T}\right)(\bar{y}_R - \bar{y}_M)$$

where

$\bar{y}_T$ = the estimated mean based on all eligible sample cases

$\bar{y}_R$ = the estimated mean based only on respondent cases

$\bar{y}_M$ = the estimated mean based only on nonrespondent cases

n_T = the estimated number of cases (i.e., $n_T = n_R + n_M$)

n_M = the estimated number of nonrespondents

n_R = the estimated number of respondents

A variable-free estimate of the bias, referred to as a relative bias, was used to compare biases across all variables included in the analysis. The relative bias for an estimated mean using only the respondent data, $\bar{y}_R$, is calculated using the following formula:

$$RelB(\bar{y}_R) = \frac{B(\bar{y}_R)}{\bar{y}_R}$$

Relative bias was estimated for variables known for respondents and nonrespondents. There are extensive data available for all teachers from the 2007–08 SASS sampling frame and teacher data files. The variables used are presented in exhibit 1.

Exhibit 1.   Variables used in the TFS unit nonresponse bias analysis: 2008–09

- Average number of students taught;
- Base teaching salary;
- Census region;
- Class organization;
- Community type;
- First-year teacher, other new teacher, or experienced teacher status;
- Grade level of students taught;
- Highly Qualified Teacher status;
- Main teaching assignment;
- National Board for Professional Teaching Standards certification status;
- Number of areas of classroom planning and teaching over which the teacher has no control or minor control;
- Number of school-related activities outside of normal teaching duties;
- Number of separate class periods taught;
- Percentage of teacher's students who are limited-English proficient (LEP);
- Percentage of teacher's students with an Individualized Education Program (IEP);
- Percentage of enrolled students approved for the National School Lunch Program;
- School level;
- School type;
- Teacher career reflection;
- Teacher dissatisfaction;
- Teacher has been physically attacked by a student;

- Teacher participated in induction program in first year of teaching;
- Teacher participated in professional development activities;
- Teacher plans to remain in teaching;
- Teacher's stayer/mover/leaver status;
- Teacher's main activity;
- Teacher's main activity in the last school year;
- Teacher's age;
- Teacher's detailed race/ethnicity;
- Teacher's evaluation of the usefulness of professional development activities;
- Teacher's highest degree earned;
- Teacher's Praxis or other exam results;
- Teacher's race/ethnicity;
- Teacher's sex;
- Teacher's subject matter taught;
- Total hours per week spent on all school-related activities;
- Total hours per week spent on classroom instruction;
- Total K–12 and ungraded enrollment in school;
- Total number of students taught;
- Total years of teaching experience;
- Type of certification; and
- Union member status.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), 2008–09.

The following steps were followed to compute the relative bias. First, the nonresponse bias was estimated and tested to determine if the bias is statistically significant at the $p < .05$ level. Second, noninterview adjustments were computed, and the variables listed above were included in the nonresponse models. The noninterview adjustments, which are included in the weights (see chapter 7 for more detail), were designed to significantly reduce or eliminate unit nonresponse bias for variables included in the models. Third, after the weights were computed, any remaining bias was estimated for the variables listed above and statistical tests were performed to check the remaining significant nonresponse bias. For this comparison, nonresponse bias was calculated as the difference between the base-weighted sample mean and the nonresponse-adjusted respondent mean, which evaluates the effectiveness of each noninterview adjustment in mitigating nonresponse bias. Sampled teachers found to be ineligible for TFS were excluded from the analysis.

Table 13 contains summary statistics of the findings. Detailed tables by 2008–09 teaching status (stayer, mover, or leaver) can be found in appendix F.

Table 13.　Summary of teacher nonresponse bias statistics, by 2008–09 status: 2008–09

| Nonresponse bias statistics | Total | 2008–09 status | | |
		Stayer	Mover	Leaver
Before noninterview adjustment				
Mean estimated percent relative bias	-0.01	-0.01	-0.01	-0.03
Median estimated percent relative bias	#	#	#	-0.01
Percent of variable categories significantly biased	15.12	10.73	12.20	10.24
After noninterview adjustment				
Mean estimated percent relative bias	-0.01	#	#	-0.02
Median estimated percent relative bias	#	#	#	#
Percent of variable categories significantly biased	6.34	8.29	5.85	8.29

Rounds to zero.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public and Private School Teacher Data Files," 2007–08, and Teacher Follow-up Survey (TFS), "Current and Former Teacher Documentation Data Files," 2008–09.

Summary of Conclusions

As shown in table 13, the weighting adjustments eliminated some, but not all, significant nonresponse bias. For all respondents, 15 percent of the variable categories were significantly biased before nonresponse weighting adjustments, and 6 percent were significantly biased after adjustments. Similarly, for stayers, movers, and leavers, 11 percent, 12 percent, and 10 percent, respectively, of the variable categories were significantly biased before noninterview weighting adjustments. After adjustments, 8 percent, 6 percent, and 8 percent of variable categories were significantly biased for stayers, movers, and leavers, respectively.

Item-level Nonresponse

Overview of Methodology

The item bias analysis examined the overall response rate for each item on both TFS data files. The analysis included examining the item response rates by the characteristics listed in exhibit 2 below, using the final weight for all in-scope sampled units. If the overall response rate for the item falls below 70 percent, the item will be footnoted in NCES publications with "Item response rate fell below 70 percent" as a method of cautioning the user that the low item response rate introduces some potential for bias in the imputation procedure. For any characteristic where the item response rate was less than 85 percent, a more detailed analysis was done by the characteristics listed in exhibit 2. The results were highlighted if that particular cell had a significantly higher or lower response rate than the file as a whole and bolded if the difference was noteworthy. A noteworthy difference met the following conditions:

- The difference relative to the overall response rate for the particular item was greater than 10 percent.
- The absolute difference was greater than one percentage point.
- The coefficient of variation was less than 15 percent.
- The cell had at least 30 interviews.

Exhibit 2.   Variables used in the TFS item nonresponse bias analysis: 2008–09

• Census region;	• Teacher's stayer/mover/leaver status;
• Community type;	• Teacher's detailed race/ethnicity;
• Main teaching assignment;	• Teacher's highest degree earned;
• Percentage of enrolled students approved for the National School Lunch Program;	• Teacher's sex;
	• Total hours per week spent on all school-related activities;
• School level;	
• School type;	• Total K–12 and ungraded enrollment in school;
• Teacher career reflection;	
• Teacher out-of-pocket expenses;	• Total years of teaching experience; and
• Teacher participated in induction program in first year of teaching;	• Union member status.
• Teacher's age;	

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 2008–09.

Table 14 presents the number of items by response rate for each survey population. Note that no items had a response rate below 70 percent.

Table 14.   Number of questionnaire items, by response rate category and survey population: 2008–09

Survey population	Total items	Number of items 95 percent or above	Number of items between 85.0 and 94.9 percent	Number of items between 70.0 and 84.9 percent	Number of items below 70 percent
Current teacher[1]	73	67	5	1	0
Former teacher	83	12	38	33	0

[1] Three source codes from item 4 (school's street address, school's ZIP code, and name of school district) that had response rates of less than 85 percent were excluded from the item bias analysis because missing data are not imputed.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), "Former and Current Teacher Documentation Data Files," 2008–09.

Summary of Conclusions

On the Current Teacher Data File, one item had a response rate below 85 percent, requiring a closer examination. A closer examination of this item revealed no substantial evidence of a bias.

On the Former Teacher Data File, 33 items had a response rate below 85 percent, requiring a closer examination. A closer examination of these items revealed no substantial evidence of a bias.

Chapter 6. Data Processing

Once the 2008–09 Teacher Follow-up Survey (TFS) data collection was completed, data processing began. U.S. Census Bureau clerical processing staff in Jeffersonville, Indiana, was responsible for the first phase of data processing. This involved using the Automated Tracking and Control (ATAC) system to assign a check-in status code for each paper TFS questionnaire received; TFS questionnaires completed on the Internet were automatically assigned check-in codes by the Internet instrument. The data from completed paper questionnaires then were captured (converted from paper to electronic format), combined with data from the Internet instrument, and sent to Census Bureau analysts in reformatted SAS datasets for data review.

Data processing was conducted within each TFS questionnaire type. Census Bureau analysts began the data review process by assigning a preliminary interview status code. A series of computer edits were then run on the data to identify inconsistencies, assign a final interview status to each case, and impute items that were still "not answered" after taking into account item responses that were blank due to a questionnaire skip pattern. Once all of the "not-answered" items were imputed and analysts had reviewed all data, the final data release data products were prepared.

Questionnaire Check-in

Check-in of Paper Questionnaires

The Census Bureau clerical processing staff received questionnaires directly from both the sample teachers and from the Jeffersonville Telephone Center, where all telephone follow-ups were conducted. Upon receipt, staff assigned a check-in code (e.g., completed questionnaire, blank questionnaire, refusal, teacher deceased) to each questionnaire to indicate its status. A paper questionnaire was checked in as a "completed questionnaire"[12] when the respondent completed all of the "critical items" (see exhibit 3). Clerical processing staff also looked at question 1 on all of the questionnaires to see if the respondent indicated that he or she was sent the incorrect questionnaire type due to the former school's inaccurate reporting of the respondent's teaching or other occupational status on the Teacher Status Form[13]; these respondents were assigned a unique "switcher" check-in code indicating this. See chapter 4 for further information about "switchers." The remaining check-in codes were assigned based upon any notes or indicators written on the cover of or attached to the returned questionnaire. If staff members were unsure of what check-in code to assign, they sent the case to Census Bureau analysts at headquarters for reconciliation.

All TFS questionnaires were assigned a check-in code. The code for the mailed, paper questionnaires was entered into the ATAC system. If there was a change to the address either marked on the questionnaire label or indicated by the post office, the address information was updated in the ATAC system as well.

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[12] The check-in code indicating a "completed questionnaire" does not necessarily indicate that a case is a "complete interview." Interview status was assigned both during the preliminary and final interview status recode (ISR) stages of data processing. See the Preliminary ISR Classification and Final Interview Status Edit sections of this chapter for a detailed description of the criteria for former and current teacher questionnaire complete interviews.

[13] The Teacher Status Form was mailed to TFS sampled schools that provided lists of teachers during the 2007–08 Schools and Staffing Survey. These schools were asked to complete the form by indicating whether each teacher listed was still teaching in that school (stayer), was teaching in another school (mover), or left the teaching profession all together (leaver).

The questionnaires were then grouped into batches by questionnaire type, doc type,[14] and check-in code. Only completed interviews were sent on for the next step of data processing, data capture.

Exhibit 3.   TFS critical items, by survey population: 2008–09

Survey population	Page	Item	Source code[1]	Description
Former teachers	5	1a	REGCL	Do you currently teach any regularly scheduled class(es) in any of grades pre-K–12? (Response should be "No" in order to continue with TFS-2 path.)
	5	1c	POSSC	Note: This question is asked only when item 1a is marked "Yes." How do you classify your position at your current school, that is, the activity at which you spend most of your time during the school year? (Response should be short-term substitute, student teacher, or teacher aide in order to continue with TFS-2 path.)
	6	3	OCCST	What is your current main occupational status?
Current teachers	5	1a	REGCL	Do you currently teach any regularly scheduled class(es) in any of grades pre-K–12? (Response should be "Yes" in order to continue TFS-3 path.)
	5	1b	POSSC	How do you classify your position at your current school, that is, the activity at which you spend most of your time during the school year? (Response should not be short-term substitute, student teacher, or teacher aide)
	6	3a	MOVYN	Are you currently teaching in the same school as you were last year (2007–08)?

[1] Source codes are used to identify particular items on TFS questionnaires. For each questionnaire type, the five-letter source code can be found to the left of the first answer choice.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), "Former and Current Teacher Documentation Data Files," 2008–09.

Check-in of Internet Questionnaires

Approximately 86 percent of respondents who completed the TFS completed the internet version of the questionnaire that included the questions for both the current and former teacher questionnaires. TFS questionnaires completed on the Internet were automatically assigned check-in codes by the internet instrument.

The internet instrument was programmed so that internet respondents could not skip over critical items (those items that must be answered in order for a questionnaire to be considered complete). On the last screen of the internet questionnaire, the respondent was given the option to submit the completed questionnaire. The internet questionnaires were assigned a check-in code of complete as long as the

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[14] The doc type indicates if the questionnaire that was received by the clerical staff was from the first mailing, second mailing, or field follow-up.

respondent completed all of the critical items and either successfully reached the end of the questionnaire or successfully submitted the completed survey. All other situations where the respondent accessed the instrument but did not complete the questionnaire were considered to be partially complete and were assigned an interview status code during the preliminary and final interview status recode (ISR) stages of data processing that was dependent upon which items were answered. For further information about the preliminary ISR classification, refer to the Data Review section of this chapter.

Several of the critical items on the TFS internet version served as screener questions because the respondent's answers to these questions determined which questionnaire path the respondent would follow. The combination of the first two items determined whether the respondent went down the leaver (i.e., former teacher) path or the stayer/mover (i.e., current teacher) path. The first item asked the respondent if he or she currently taught any regularly scheduled classes in any of grades prekindergarten through 12. If not, the respondent would automatically follow the former teacher path of questions. Otherwise, the second item asked the respondent to classify his or her current position at the current school. As long as the respondent was not a short-term substitute, a student teacher, or a teacher aide, he or she would follow the current teacher path of questions.[15]

Further down the current teacher questionnaire path, a question asked whether the respondent was teaching at the same school as the previous year. This question determined whether the current teacher respondent would follow the "mover" path of questions. See the Final Interview Status Edit section of this chapter for a detailed description of the criteria for former and current teacher questionnaire complete interviews.

Data Capture and Imaging

Data Capture of Paper Questionnaires

The 2008–09 TFS data were captured (i.e., converted from paper to electronic format) using manual data keying. During check-in, the questionnaires were split into groups called "batches" by questionnaire type, doc type, and check-in code, and then they were manually keyed. Manual data keying for the TFS questionnaires was accomplished using a Key from Paper (KFP) data capture system. Analysts wrote specifications for data keying, and programmers used these specifications to develop the KFP system for each survey prior to keying. It was programmed to present screens of questionnaire items to data keying staff who reviewed each page of the questionnaire and keyed any entries into the appropriate fields on the screens.

All KFP entries were 100 percent verified by the keying staff, meaning that every field on every keyed record was keyed twice and the results were compared automatically for discrepancies and, subsequently, verified. The verification during this operation allowed up to a 1 percent error on a field-to-field basis. Error rates were calculated by dividing the total number of keying errors by the total number of keyed fields. If an entire batch of questionnaires had a total error of more than 1 percent (i.e., all keying errors for that batch divided by the total keyed fields in that batch exceeded 1 percent), the batch was unacceptable, and all questionnaires within the batch were 100 percent verified a second time. A more detailed discussion of data capture and results of the keying verification for the TFS questionnaires are provided in "Appendix G. Quality Assurance for TFS Keying and Mailout Operations."

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[15] For TFS, teacher aides, student teachers, and short-term substitute teachers were not considered regular classroom teachers. If a respondent was a regular classroom teacher during the 2007–08 Schools and Staffing Survey school year and changed assignments to one of these three positions for the 2008–09 school year, then he or she was considered to be a leaver and should have completed the former teacher questionnaire.

Images of each questionnaire were captured after data entry was completed. The image files were used during subsequent steps of data processing to view the images of the actual questionnaires electronically.

Data Capture of Internet Questionnaires

Data for the internet questionnaires did not go through a separate data capture operation. As respondents completed questions on the TFS website, data were automatically captured and saved by the system. At this point, the data were already in electronic format. Unlike the TFS paper questionnaires, there were no images of the internet questionnaires to be captured and stored as image files (since this was a web-based survey). Therefore, during subsequent steps of data processing, Census Bureau analysts were not able to refer back to a paper questionnaire for reference.

Reformatting

After the paper questionnaire data were captured, the output files were reformatted into SAS datasets. The internet data were in a different electronic format and also needed to be reformatted. Census Bureau analysts provided specifications to programmers that indicated how to merge these paper and internet data files together into two TFS formatted SAS datasets, by TFS questionnaire type. This allowed analysts to proceed with data processing and cleaning of the paper and internet data together in merged SAS datasets.

Data Review

Once all of the TFS data were reformatted, the data review process began. The overall goal of the data review process was to make sure that the final datasets contained clean, accurate data and that there were no "not answered" items remaining on any questionnaire records in the final data files.

During the data review process, analysts looked at the frequencies data, source code by source code (or groups of source codes, as necessary) in order to observe the changes that occurred in the data throughout the different stages of data processing. These data processing steps, which are outlined and discussed further in this document, include the following: a preliminary interview status classification; a series of computer edits that check that the data are in range, are consistent throughout a questionnaire record, follow the correct skip pattern, and logically follow from responses on the related Schools and Staffing Survey (SASS) questionnaire; a final interview status classification; and an imputation stage, during which any remaining "not answered" survey items were imputed.

By reviewing the frequency counts of data items at each stage of data processing, analysts were able to make sure that the edit and imputation programs were working correctly; that is, that they were doing what analysts intended for them to do. The data review also helped to ensure that the imputed values seemed consistent with the other data on the questionnaire record.

Another reason that Census Bureau analysts examined frequencies of each data item at each stage of data processing was to identify any suspicious values (e.g., if an item's response was outside the range of possible answer choices or if an answer seemed unlikely given the respondent's other responses in the survey). Appropriate fixes were made to the data files when necessary.

Preliminary ISR Classification

The preliminary interview status recode (ISR) was a preliminary determination of whether each case was an interview, a noninterview, or was out of scope for TFS. In general, cases with an "out-of-scope" outcome code that had been assigned during data collection were classified as out of scope (ISR = 3) for

the preliminary ISR. Otherwise, cases with data entries were classified as completed interviews (ISR = 1). Cases with no data and cases where the sampled teacher had refused were classified as noninterviews (ISR = 2).

Computer Edits

After the preliminary ISR classification, all files were submitted to a series of computer edits. These edits consisted of a range check, a consistency edit, a blanking edit, and a logic edit.

Creating Edit Flags

Because the consistency edits and logic edits made actual changes to the existing TFS data, a series of computer edit flags were created to indicate such changes. These flags enabled analysts to keep track of how much editing was occurring overall, along with what kinds of changes and at which stage of processing these changes were made. The definitions for each flag used during the computer edits are described in exhibit 4 below.

Exhibit 4.   Flags used in processing TFS questionnaires: 2008–09

Processing step	Flag variable	Flag value and definition
Edit specs	ef_[sourcecode] =	0 = No edit performed.
		1 = Consistency edit.
		2 = Logic edit, within record's TFS data.
		3 = Logic edit, across record's SASS and TFS data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), "Former and Current Teacher Documentation Data Files," 2008–09.

Range Check

The first of the computer edits was the range check. The range check was used to delete entries that were outside the range of acceptable values that were set prior to the administration of TFS.

Consistency Edit

Actual changes to the data were made during the consistency edit. The consistency edits identified inconsistent entries within each case and, whenever possible, corrected them. If the inconsistencies could not be corrected, the entries were deleted. There were two types of inconsistencies:

- *within items* (e.g., if the response to the "Yes/No" part of the current teacher questionnaire item 15—whether or not the teacher is currently receiving a pension from a teacher retirement system—was not marked "Yes," but a dollar amount greater than 0 was entered into the "how much" portion of the item, the consistency edit marked "Yes" to the "Yes/No" part of item 15); or
- *between items* (e.g., if the response to item 4 on the former teacher questionnaire—whether or not the respondent is currently working in a job—is not marked "Yes," but the respondents entry in any of items 5b, current job duties, 5c, job classification, 7, full-time or part-time employment status, or 8, current salary, indicates that they are working in a job, the consistency edit marked "Yes" for item 4).

Blanking Edit

Once the consistency edits were run, the blanking edits deleted extraneous entries (e.g., in situations where skip patterns were not followed correctly) and assigned the "not answered" code (.n for numeric items, "N" for character items) to items that should have been answered but were not.

Logic Edit

Data were added to questionnaire records during the logic edits, which filled in some items where data were missing or incomplete using other information on the same TFS record or on the 2007–08 SASS teacher record. The two main types of edits that occurred during the logic edits are described in further detail below.

- *Editing data using other items on the same TFS questionnaire record.* Based on entries from related items on the TFS record, assumptions were made about how the respondent might have answered items. For example, item 8 on the current teacher questionnaire asks respondents if they changed schools because their contract was not renewed at last year's school. If the respondent indicates that any of the reasons for leaving last year's school in item 9 were reported as "very important" or "extremely important," and item 8 was unanswered, then item 8 was marked "no" by the logic edit and flagged accordingly.
- *Editing data using related items on the 2007–08 SASS teacher record.* Since each TFS sampled teacher participated in the 2007–08 SASS, information from the SASS record was sometimes used to add data to the TFS record during the logic edits. For example, item 9 on the former teacher questionnaire (item 15 on the current teacher questionnaire) asked if the respondent is currently receiving a pension from a teacher retirement system. If this item was left blank by the respondent and the respondent's birth year from the 2007–08 teacher questionnaire indicates that (s)he is younger than age 46, then item 9 was marked "no" by the logic edit and flagged accordingly.

Values filled in by the logic edits were valid responses because they were within the range of acceptable values that was set prior to the administration of TFS and were consistent with the respondent's answers to related items.

The only records that were put through the series of computer edits were those classified as interviews in the preliminary ISR. The tables in appendix H show the number of edit changes made to entries for each of the variables within each data file. These changes are summarized in table 15 below.

Table 15.   **Summary of changes made to variables in the consistency and logic computer edits, by data file: 2008–09**

Data file	Total number of cases	Total number of variables in questionnaire	Number of variables changed during edits, by percentage of all TFS records on which the variable was changed			
			None	1–15 percent	16–30 percent	More than 30 percent
Former teacher	1,264	87	32	50	4	1
Current teacher	3,481	97	32	61	2	2

NOTE: Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), "Former and Current Teacher Documentation Data Files," 2008–09.

Final Interview Status Edit

After the range checks, consistency edits, blanking edits, and logic edits were completed, the records were put through an edit to make a final determination of whether the case was eligible for the survey and, if so, whether sufficient data had been collected for the case to be classified as a completed interview. A final interview status recode (ISR) value was assigned to each case as a result of this edit.

1. **Questionnaire for Former Teachers (Form TFS-2)**

   A case was classified as **out-of-scope** (ISR = 3) if

   - the sampled person was deceased; or
   - the sampled person moved outside of the United States; or
   - the sampled person had never been a teacher.

   A case was classified as an **interview** (ISR = 1) if

   - none of the conditions for out-of-scope cases was met; and
   - the sampled person reported that he/she did not currently teach any regularly scheduled classes in any of grades pre-K–12 (item 1a, REGCL) or reported that his/her job classification was a short-term substitute, student teacher, or teacher aide (item 1c, POSSC); and
   - the sampled person reported his or her main occupational status (item 3, OCCST).

   A case was classified as a **noninterview** (ISR = 2) if an eligible case did not meet the requirements to be an interview case.

2. **Questionnaire for Current Teachers (Form TFS-3)**

   A case was classified as **out-of-scope** (ISR = 3) if

   - the sampled person was deceased; or
   - the sampled person moved outside of the United States; or
   - the sampled person had never been a teacher.

   A case was classified as an **interview** (ISR = 1) if

   - none of the conditions for out-of-scope cases were met; and
   - the sampled teacher indicated that he/she taught any regularly scheduled class(es) in any of grades pre-K–12 (item 1a, REGCL); and
   - the sampled teacher reported that his/her job classification was not a short-term substitute, student teacher, or teacher aide (item 1b, POSSC); and
   - the sampled teacher indicated whether he/she was teaching in the same school as the previous year (item 3, MOVYN).

   A case was classified as a **noninterview** (ISR = 2) if an eligible case did not meet the requirements to be an interview case.

The percentage change between preliminary and final ISR counts for each ISR classification for each data file are shown below in table 16.

Table 16.   Percentage change between preliminary and final interview status recode (ISR), by data file: 2008–09

		Percent change in ISR[1]		
Data file	Sample size	Interviews	Noninterviews	Out-of-scope
Former teacher	1,579	-0.47	2.12	0.00
Current teacher	4,021	-0.26	1.37	0.00

[1] The percentage change for each ISR category (interviews, noninterviews and out-of-scope) is computed by subtracting the number of cases in the preliminary ISR count from the number of cases in the final ISR count, and dividing by the number of cases in the preliminary ISR count.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), "Former and Current Teacher Documentation Data Files," 2008–09.

Creating Imputation Flags

After the final ISR edits were run, there were still cases with "not answered" values on the files for some variables. Values were created for these items in the next step of the processing—imputation.

After the imputation step, the computer edits (described above in the Computer Edits section of this chapter) were re-run to ensure that the imputed data were consistent with the existing questionnaire data.

Flags that were used in the imputation stage of data processing were different than those used for consistency edits in that they were in the format of f_[source code] = (value of 0, 7, or 8). The definitions for each imputation flag used in the TFS are described in exhibit 5 below.

Exhibit 5.   Imputation flags used in processing TFS questionnaires: 2008–09

Processing step	Flag variable	Flag value and definition
Imputation specs	f_[sourcecode] =	0 = Data reported. Not imputed.
		7 = Donor imputation.
		8 = Mean or mode imputation.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), "Former and Current Teacher Documentation Data Files," 2008–09.

By looking at the flag values, data users are able to identify which items were imputed and how the imputations were performed. The data user can use this imputation flag to decide whether or not to include imputed data in his or her analysis and which types of imputed data to employ.

Imputation Overview and Procedures

During the computer edit stages of data processing, extraneous entries were deleted (e.g., in situations where skip patterns were not followed correctly), the "not answered" code was assigned to the items that should have been answered but were not, and some data were added or modified based on other items on the same TFS questionnaire or an associated 2007–08 SASS questionnaire. The "not answered" items that still remained were eligible for imputation after the computer edit stage of processing was complete.

In order to fill "not answered" items with data, questionnaires were put through an imputation stage of data processing during which two main approaches were used. In one approach (hot deck imputation), data were imputed from items found on questionnaires of the same type (former or current teacher questionnaire) that had certain characteristics in common. These records are called "donor records."

If the donor, or "hot deck," imputation was unsuccessful in finding an appropriate donor, the second method of imputation was applied. The second method is known as mean or mode imputation, during which data are imputed from the mean or mode of data found on questionnaires of the same type among respondents who have certain characteristics in common ("donor groups"). This mean and mode imputation was implemented only as a final method of imputation and on an as-needed basis.

When a missing item was imputed from a donor record and the donor answered using the "other" option, the write-in "please specify" portion was not imputed. In addition, none of the write-in items (e.g., open-ended items) were imputed from donor records. Many of the write-in items ask for information that is very specific to each respondent. For instance, item 4 on the current teacher questionnaire asks for the contact information for the respondent's 2008–09 school. Items such as these were not imputed and were left unanswered on the final data files (i.e., given a value of -9 for missing data).

Before the imputation stage of processing, the former and current teacher questionnaire datasets were split up further. The former teacher questionnaire data file became two separate files; one file contained former teacher questionnaire data for sampled teachers from traditional public and public charter schools, and the other file contained former teacher questionnaire data for sampled teachers from private schools.

Once the imputation stage was complete, there were no more unanswered items other than the write-in items (e.g., open-ended items) that are not imputed. At this point, Census Bureau analysts performed checks on the imputed data to make sure that they were consistent with other data on the same record.

Hot Deck Imputation

During hot deck imputation, responses were determined by establishing a donor record and then basing imputation on data found within the donor record. Donors were selected based on their answers to specified items called "matching variables." If two respondents answered the selected matching variables in similar ways, then it was assumed that they were comparable and that imputation of one data item from the other was reasonable.

The matching variables used to establish donor relationships were selected based on the type of data the donor would supply to the record undergoing imputation. For example, because the respondent's teaching field and the proximity of the school to a city may influence a respondent's answer to a given item, these variables were used to find another sampled teacher in a school with similar characteristics.

Before the matching variables were used to determine appropriate donor records, the data files were sorted by a selection of matching variables in the order of their importance. Sorting the data helped to ensure that appropriate donors that were the most similar to the record with the unanswered data would be selected. Sorting accomplished this in two ways.

First, in many cases, the donor and imputed records were required to have the same answers on key variables. Second, sorting the data ensured that records with similar characteristics were adjacent in the data file. This made the imputation programs run more efficiently because the data were ordered such that similar data were close to one another.

For hot deck imputation among ***public school sampled teachers***, the states in which the sampled teachers' 2007–08 schools (as reported in SASS) were located were combined into four groups by their geographic region in order to increase the size of the donor pool. These four regions were the Northeast, Midwest, South, and West. All imputation was done within the geographic region group; that is, the donor record had to be from a sampled teacher within the same region as the incomplete record.

Former public school sampled teachers. Within each region group, the records were sorted by the following variables:

- WORK—Whether the respondent was currently working; and
- STATE—State in which respondent's 2007–08 school was located; and
- T0360—Sampled teacher's birth year, as reported on the 2007–08 SASS teacher questionnaire (from which age was derived).

The records were sorted by REGION/WORK/STATE/T0360.

Current public school sampled teachers. Within each region group, the records were sorted by the following variables:

- STATE—State in which respondent's 2007–08 school was located; and
- STAYER—Whether the respondent was teaching at the same school as during the 2007–08 school year.

The records were sorted by REGION/STATE/STAYER.

For hot deck imputation among ***private school sampled teachers***, the typologies of the sampled teachers' 2007–08 schools (as reported in SASS) were combined into three groups of affiliations. These three affiliations were Catholic, other religious, and nonsectarian. All imputation was done within the affiliation group; that is, the donor record had to be from a sampled teacher within the same affiliation group as the incomplete record.

Former private school sampled teachers. Within each affiliation group, the records were sorted by the following variables:

- TYPOLOGY—Typology of respondent's 2007–08 school;
- WORK—Whether the respondent was currently working; and
- T0360—Sampled teacher's birth year, as reported on the 2007–08 SASS teacher questionnaire (from which age was derived).

The records were sorted by RELIG/TYPOLOGY/WORK/T0360.

Current private school sampled teachers. Within each affiliation group, the records were sorted by the following variables.

- TYPOLOGY—Typology of respondent's 2007–08 school; and
- STAYER—Whether the respondent was teaching at the same school as during the 2007–08 school year.

The records were sorted by RELIG/TYPOLOLGY/STAYER.

Once the data files were sorted by the appropriate sort variables, each item on each questionnaire was assigned a group of matching variables along with a routine describing the hierarchy of importance of each of the matching variables in determining an appropriate donor. The matching variables were chosen and ordered to ensure that the donors chosen were the most similar to the record with the unanswered data and therefore the best donors possible.

For example, on the former teacher questionnaire, item 8 asks for the respondent's estimated annual before-tax earnings at his or her job. If the respondent left this item blank, the most important variable in predicting its value would be the proximity of the respondent's location to a metropolitan center (URB), highest degree earned (HIGHDEG), respondent's age (AGE_TCAT), and the respondent's number of years of teaching experience (TEAEXPER). Therefore, the ordered matching variables were URB, HIGHDEG, AGE_TCAT, and TEAEXPER. However, item 16 asks about the respondent's citizenship status, a characteristic for which the most useful predictors may not be the number of years of teaching experience, the highest degree that he or she has earned, and age. Instead, the percentage of students in the former school who are of a racial/ethnic minority (MINEN) and last year's teaching field (FIELDLYR) might be more important indicators of citizenship status. Therefore, the ordered matching variables for this item would be URB, MINEN, and FIELDLYR.

When there were not enough donor records within any given stratification cell of perfectly matched matching variables, a collapsing routine was instituted for each individual matching variable. This was done to make sure that values that were not consistent with other data on the same record would not be imputed simply because a record was close to the boundary between the stratification cells (e.g., there were other records that were suitable donors or the record was not similar enough to be a donor).

For example, for the current teacher questionnaire, the collapsing routine for the matching variable MINEN[16] (percentage of enrolled students in the school who are of a racial/ethnic minority) was as follows:

        (1,2,3,4,0,
         2,3,1,4,0,
         3,2,1,4,0,
         4,3,2,1,5,
         5,4,0,0,0)

If the value for MINEN on the record with missing data was 1 and there was no available donor where MINEN = 1, the collapsing program looked for a donor where MINEN = 2. If there was still no available donor, the program looked for a donor where MINEN = 3, then MINEN = 4. It did not look for cases where MINEN = 5. Likewise, if the value for MINEN on the record with missing data was a 3 and there was no available donor where MINEN = 3, the collapsing program searched for a donor where MINEN = 2, then MINEN = 1, and then MINEN = 4. When the collapsing routine hit 0, there was no donor available for this case. In these instances, the value was imputed based on the mean or mode of matching groups of respondents.

Once the donor relationship was established, the donor record provided data items either directly or indirectly to the imputed record. For example, the unanswered item requesting a current teacher's academic year base teaching salary (item 14 on the current teacher questionnaire) was filled by accepting the ratio of 2007–08 teaching salary reported on the SASS teacher questionnaire to the 2008–09 teaching salary reported on the TFS current teacher questionnaire and applying that ratio to the 2007–08 teaching salary from the imputed record's SASS teacher questionnaire.[17]

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[16] MINEN = 1 if the percentage of students in school who are of a racial/ethnic minority was less than 5.5 percent. MINEN = 2 if the percentage was greater than or equal to 5.5 percent and less than 20.5 percent. MINEN = 3 if minority enrollment was greater than or equal to 20.5 percent and less than 50.5 percent. MINEN = 5 if the percentage was greater than or equal to 50.5 percent. MINEN = 4 if the percentage was unclassified.

[17] Note that this item was also adjusted further if the respondent's teaching status changed from part time in 2007–08 to full time in 2008–09 or vice versa.

Finally, to prevent a single record from having an undue impact on the data, a record could only be used as a donor a maximum of five times. There were no exceptions to this procedure.

Data imputed during the hot deck imputation were given an imputation flag of value "7."

Mean and Mode Imputation

During mean and mode imputation, responses for a particular item were imputed by establishing groups of similar questionnaires (donor groups) and by substituting either the mean (the average of all the responses for that item) or mode (the response that occurs most frequently) of the same data item within that established donor group. Donor groups were selected based on respondents' data for specified items called "matching variables." If several respondents answered the selected matching variables in the same manner, then it was assumed that imputation of one data item from the mean or mode of the cases within the similar group was reasonable. The mode of responses within a donor group was used for the categorical items, while the mean was used for continuous items.

The matching variables used to establish donor groups for mean and mode imputation were the same matching variables used during the hot deck imputation. However, if a donor group could not be established even after collapsing each matching variable completely, the mean and mode imputation would drop the least important matching variable(s) in the established matching variable hierarchy and look for a donor group until one was established and the missing data item was imputed.

Data imputed during the mean and mode imputation were given an imputation flag of value "8."

Post-Imputation Processing

Following imputation, the computer edits were re-run and any remaining data issues were resolved. These edits were used to ensure that the values imputed were within acceptable ranges and were consistent with other items on the same questionnaire. Analysts performed a final review of the imputed data, and once this review was complete, any items that were imputed at a rate greater than 15 percent were analyzed as part of the item bias analysis (see chapter 5 for details about nonresponse bias analysis).

Final File Imputation Tables

Following all stages of imputation, the datasets were merged so that the data were contained in two files: one file for the former teacher questionnaire data and the other for the current teacher questionnaire data. The number of source codes (specific items) that were imputed for a given percentage of records during a given stage of processing appears for each file below in tables 17 and 18. For example, during hot deck imputation, 74 survey items were imputed for between 1 and 15 percent of the former teacher questionnaire items.

Table 17. **Number of source codes for former teacher items imputed by percentage of records receiving imputation and type of imputation: 2008–09**

Type of imputation	Not imputed for any record	Imputed for 1–15 percent of the records	Imputed for 16–30 percent of the records
Mean or mode	18	62	0
Donor	6	74	0

NOTE: Every question item and data entry in the questionnaires has a corresponding source code. The source codes are the 5-letter codes found to the left of each item or data entry field in the questionnaires, which become the variable names for these data.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), "Former Teacher Documentation Data File," 2008–09.

Table 18. **Number of source codes for current teacher items imputed by percentage of records receiving imputation and type of imputation: 2008–09**

Type of imputation	Not imputed for any record	Imputed for 1–15 percent of the records	Imputed for 16–30 percent of the records
Mean and mode	71	24	0
Donor	16	79	0

NOTE: Every question item and data entry in the questionnaires has a corresponding source code. The source codes are the 5-letter codes found to the left of each item or data entry field in the questionnaires, which become the variable names for these data.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), "Current Teacher Documentation Data File," 2008–09.

Data Products

After all stages of imputation were completed and the blanking and consistency edits were run once again, the data were still split into data files by questionnaire type (i.e., current teacher, former teacher). Data remained in these two separate files upon the creation of the final data files and products.

Both of these data files included all variables, including frame variables, survey variables, created variables, weighting variables, edit flags, and imputation flags. These files were used as the source files for the documentation data files and the restricted-use data files. The documentation data files were used to run the unit and item response rates and contain all sampled cases and the base weights in addition to the final weights. The restricted-use data files contain only the respondents' records; processing variables and most sampling variables were removed. In addition, the documentation data files and restricted-use data files were altered to meet the requirements of data nondisclosure. (See chapter 9 for additional description of the restricted-use data files.)

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Chapter 7. Weighting and Variance Estimation

Contained in this chapter is a discussion of the weighting and variance procedures used for the 2008–09 Teacher Follow-up Survey (TFS). The chapter begins with a discussion of the weighting procedure used to compute final weights for the interviewed teachers and moves on to discuss variances. Weighting is the last step in the data processing. Variances are computed to estimate the reliability and are a product of the weighting procedure.

Weighting

This section describes the weighting processes for each teacher who responded to TFS. The general purpose of weighting is to inflate the sample estimates to represent the target survey population. The steps for weighting types of respondents are similar to those used for the 2007–08 Schools and Staffing Survey (SASS), although a new method for computing the TFS noninterview adjustment was utilized. For TFS, a base weight (the inverse of the sampled teacher's probability of selection) is used as the starting point. Then, a weighting adjustment is applied that reflects the impact of the SASS teacher weighting procedure. Next, a nonresponse adjustment factor is calculated and applied using information that is known about the respondents and nonrespondents from the sampling frame data. Finally, a ratio adjustment factor is calculated and applied to the sample to adjust the sample totals to frame totals in order to reduce sampling variability. The product of these factors is the final weight for TFS. See table 19 for a distribution of the final weights for the 2008–09 TFS.

Table 19.   Distribution of final weights, by data file: 2008–09

Data file	Mini-mum	Weight at given percentile									Maxi-mum	Mean
		1st	5th	10th	25th	50th	75th	90th	95th	99th		
Former teacher	3.43	9.82	25.63	48.25	98.99	164.86	250.37	463.36	640.68	3,570.41	7,007.89	274.56
Current teacher	3.07	8.41	14.79	21.40	54.92	254.20	1,041.65	3,674.36	4,577.23	6,176.39	9,628.41	1,011.36

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), "Former and Current Teacher Documentation Data Files," 2008–09.

Most of the steps in the weighting procedure employed weighting classes in the calculation of the weighting adjustments. Weighting classes partition the sample by key variables (such as race or age categories) and allow for differential adjustment factors to be computed for each step in the weighting procedure. This technique is especially useful when the computed factors are presumed to differ substantially, such as when patterns of nonresponse vary across subpopulations (such as by age or race). The noninterview adjustment weighting classes were derived through a Chi-Square Automatic Interaction Detection (CHAID) analysis procedure for the first time as part of the 2008–09 TFS weighting. (CHAID is described further later in this chapter; the cell definitions for the noninterview adjustment factor as applied to TFS weights are described in exhibit 6). A description of how the final weight is computed as well as a brief description of each step in the weighting procedure is presented below. When computations were done within weighting classes (cells), such as nonresponse adjustments, the cells are described. Sometimes a ratio adjustment cell did not have enough data to produce a reliable estimate; in such cases, cells were collapsed. The most important variables were always collapsed last. The collapsing criteria as well as the cells for the ratio adjustment are described in exhibit 7.

The final TFS sample weight equals:

TFS base weight x TFS-to-SASS weighting adjustment factor x TFS noninterview adjustment x TFS ratio adjustment

where:

TFS Base Weight is the inverse of the probability of selecting a teacher for TFS. This weight is the product of the SASS teacher base weight (described above) and TFS subsampling adjustment factor. The TFS subsampling adjustment factor is an adjustment that accounts for the subsampling of teachers from SASS sampled teachers. Thus, this base weight reflects the TFS probability of selection from all three stages of selection (i.e., SASS school sampling, SASS teacher sampling within school, and TFS sampling from SASS teachers).

TFS-to-SASS Weighting Adjustment Factor is used to adjust for the fact that the SASS teacher final weights based on preliminary data were used in selecting the TFS sample, whereas the SASS final teacher weights are more reflective of the teacher population.[18] The weighting adjustment factor adjusts for any changes to the weighting procedure that occurred between the initial and final weighting procedures for SASS teachers. For more information about the SASS teacher weighting procedure, see the *Documentation for the 2007–08 Schools and Staffing Survey* (NCES 2010-332).

TFS Noninterview Adjustment is the factor used to adjust for teachers who participated in SASS and were selected and determined to be eligible for TFS, but did not participate in the 2008–09 TFS. It is the weighted (product of the base weight and TFS-to-SASS weighting adjustment factor) ratio of the total eligible in-scope teachers (i.e., interviewed teachers plus noninterviewed teachers) to the total responding in-scope teachers (i.e., interviewed teachers) within cells. Variables used to define cells are presented in exhibit 6.

Due to concerns that the noninterview adjustment relied too heavily on assumptions about nonresponse patterns, which could lead to suboptimal nonresponse adjustments, the National Center for Education Statistics (NCES) utilized a new method to calculate weighting classes in the 2008–09 TFS. The new methodology uses a statistical algorithm that successively breaks data into groups based on chi-square tests of association, called Chi-square Automatic Interaction Detection (CHAID) (see Kass 1980). The CHAID algorithm partitions data to maximize within-group similarity and between-group dissimilarity—a desirable characteristic for nonresponse weighting classes. Using a dependent variable that identifies survey respondents and a series of predictor variables taken from the sample frame, the algorithm temporarily divides the data into two groups based on a predictor variable and runs a chi-square test on the grouped independent variable and the dependent variable. This process is repeated for each possible combination of the predictor variables. The dichotomized predictor variable with the highest level of significant association with the dependent variable is selected as the first level. This process is then repeated within the level-1 subgroups. The algorithm continues to partition the data at subsequent levels until either no remaining significant chi-square test is found or the predefined minimum cell size (N = 50) has been reached. The final partitions define the nonresponse weighting cells used to group respondents and nonrespondents to calculate the noninterview adjustment factor. For more information on, and an evaluation of, the use of CHAID using the 2004–05 TFS, see appendix K.

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[18] SASS teacher weighting was not completed in time to use final teacher weights in the TFS sample selection, necessitating the use of the SASS teacher final weights based on preliminary data in the TFS sampling.

TFS Ratio Adjustment is the factor used to adjust the TFS sample totals to SASS sample totals. This adjustment ensures that the weighted number of TFS teachers (including interviews, noninterviews, and out-of-scopes) will be consistent with the weighted number of teachers from the 2007–08 SASS. Since the teachers that are out-of-scope for TFS are included in the SASS numerators, they are included in the denominators for consistency. The TFS estimates resulting from this step will not be precisely equal to SASS estimates due to the small loss of SASS teachers from eligibility for TFS due to emigration or death.

The TFS ratio adjustment is equal to the ratio of the total number of SASS teachers not selected with certainty for TFS (i.e., those teachers not automatically included in the TFS sample as mentioned in chapter 3) to the weighted TFS sample estimate of the total number of noncertainty teachers within each weighting class, or cell, defined for this step in the weighting procedure. Certainty teachers (teachers automatically included in sample for TFS based on their stratum or their measure of size) were excluded from both the numerator and denominators and were assigned a factor equal to 1. Variables used to define cells are presented in exhibit 7.

Exhibit 6 presents the cell definitions for the noninterview adjustment factor. No collapsing was performed for the noninterview adjustment cells as the CHAID analysis ensured the cells were of sufficient size. "Leaver" refers to former teachers, or teachers who have left the pre-K–12 teaching profession after the 2007–08 school year. "Mover" refers to teachers who are teaching in a different school than in the 2007–08 school year. "Stayer" refers to teachers who are still teaching at the same school as the previous year.

Exhibit 6.   Cell definitions for the noninterview adjustment factor as applied to TFS weights: 2008–09

Teacher sampling status	Cell definition
Stayer	Aged 40 or over
Stayer	Aged 39 or under; Not Black, non-Hispanic; Bachelor's degree or lower
Stayer	Aged 39 or under; Not Black, non-Hispanic; Public or public charter school; Master's degree or higher
Stayer	Aged 39 or under; Neither non-Hispanic Black nor non-Hispanic American Indian/Alaska Native; Neither ESL/Bilingual Education nor Vocational/Technical Education teaching assignment; Private school; Master's degree or higher
Stayer	Aged 29 or under; Not non-Hispanic Black; Not ESL/Bilingual Education teaching assignment; School with less than 100 students or with 200 or more students; Less than 10 percent minority enrollment; Not Education Specialist degree
Stayer	Aged 30–39; Not non-Hispanic Black; Neither Foreign Languages nor "All other" assignments; School with more than 100 students; Master's degree or less
Mover	Aged 49 or under; non-Hispanic Asian or non-Hispanic White; Not ESL/Bilingual Education teaching assignment; Less than 5 percent minority enrollment; School with less than 2,000 students
Mover	Aged 49 or under; non-Hispanic White; Not ESL/Bilingual Education teaching assignment; 5–9.9 percent minority enrollment; Bachelor's, Master's, or Education Specialist degree
Mover	Aged 49 or under; non-Hispanic Asian or non-Hispanic White; Not ESL/Bilingual Education assignment; 10–24.9 percent minority enrollment; School with less than 50 students; Bachelor's degree or higher
Mover	Aged 49 or under; non-Hispanic Asian or non-Hispanic White; Not ESL/Bilingual Education assignment; 25 percent or more minority enrollment; School with less than 350 students; Not Doctorate degree
Mover	Aged 49 or under; non-Hispanic Asian or non-Hispanic White 25 percent or more minority enrollment; School with 350 or more students; Bachelor's degree
Mover	Aged 49 or under; non-Hispanic Asian or non-Hispanic White; 25 percent or more minority enrollment; School with 350 or more students; Master's degree or Education Specialist degree
Mover	Aged 49 or under; Neither non-Hispanic Asian nor non-Hispanic White; Bachelor's degree or higher
Leaver	Aged 49 or under; non-Hispanic Asian or non-Hispanic White; Not ESL/Bilingual Education teaching assignment; Schools with less than 200 students
Leaver	Aged 49 or under; non-Hispanic Asian or non-Hispanic White; Schools with 200 or more students
Leaver	Aged 49 or under; Neither non-Hispanic Asian nor non-Hispanic White; Elementary schools; Schools with less than 1,500 students; non-Doctorate degree
Leaver	Aged 49 or under; Neither non-Hispanic Asian nor non-Hispanic White; Secondary or combined schools
Leaver or mover	Aged 50 or over; Public charter or private schools; Not ESL/Bilingual Education teaching assignment
Leaver or mover	Aged 50 or over; Neither non-Hispanic Asian nor non-Hispanic White; Public school; School with less than 100 students or with 150 or more students
Leaver or mover	Aged 50 or over; non-Hispanic White; Public school; Neither ESL/Bilingual Education nor Foreign languages teaching assignment; Less than 5 percent minority enrollment; School with enrollment less than 2,000
Leaver or mover	Aged 50 or over; Non-Hispanic Asian, non-Hispanic White, or Hispanic; Public school; School with 5 percent or more minority enrollment

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), 2008–09.

Exhibit 7 presents the weighting classes for the ratio adjustment factor, the collapsing criteria, and the collapsing order of variables. While the categories for education (i.e., bachelor's degree or less and master's degree or more) and sex (male and female) are the same for each ratio adjustment factor weighting class, the age categories vary. The specific age categories for each weighting class are included in appendix J. Ratio adjustment cells that do not meet the collapsing criteria are collapsed with other cells according to the collapsing order. Thus, cells needing collapsing are initially collapsed with cells that have all other variables in common, but that are in an adjacent age category.

Exhibit 7.   Ratio adjustment factor and collapsing criteria as applied to TFS weights: 2008–09

	TFS ratio adjustment factor	
Population	Collapsing criteria	Collapsing order
Traditional public and charter school teachers	Factor $\geq .667$ and ≤ 1.5	Age, teaching assignment, race/ethnicity, sex
	Interviews ≥ 15	
Private school teachers	Factor $\geq .667$ and ≤ 1.5	
	Interviews ≥ 15	

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), 2008–09.

Variance Estimation

In surveys with complex sample designs, such as SASS or TFS, direct estimates of sampling errors that assume a simple random sample will typically underestimate the variability in the estimates. The SASS sampling design and estimation included procedures that deviate from the assumption of simple random sampling, such as stratifying the school sample, oversampling new school teachers, and sampling with differential probabilities.

The preferred method of calculating sampling errors to reflect these aspects of the complex sample design of SASS is replication. Replication methods involve constructing a number of subsamples (i.e., replicates) from the full sample and computing the statistic of interest for each replicate. The mean square error of the replicate estimates around the full sample estimate provides an estimate of the variance of the statistic. The replicate weights are used to compute the variance of a statistic, Y, as given below:

$$\text{Variance } (Y) = \left(\frac{1}{n}\right) \sum_{r} (Y_r - Y)^2$$

where: Y_r = the estimate of Y using the rth set of replicate weights
n = the number of replicates

The SASS surveys completed before 1993 used a procedure known as balanced repeated replication (BRR) for the calculation of sampling variance. BRR assumes sampling is done with replacement, and hence, BRR does not reflect the increase in precision due to sampling a high proportion of a finite population (termed the finite population correction, or FPC). For most surveys, where the sampling rates are low, the increase in precision will be small and can safely be disregarded. However, in SASS, the public sector surveys (i.e., school, principal, school district, teacher, and library media center) are designed to produce reliable state estimates. This necessarily implies high sampling rates, which can lead to very large overestimates of variance with BRR. Likewise, the private sector surveys (i.e., school, principal, and teacher) are designed to produce detailed private school affiliation stratum estimates, which also imply high sampling rates and subsequent overestimation of variance with BRR.

It is possible to adjust the BRR to include a finite population correction (FPC). However, since SASS uses a Probability Proportionate to Size (PPS) systematic selection procedure (see chapter 4 of the *Documentation for the 2007–08 Schools and Staffing Survey* [NCES 2010-332]), it is not clear what the appropriate FPC would be. It is even possible for an appropriate FPC to be greater than 1, which conventional methods of variance estimation are not equipped to handle. (See Kaufman 2001.)

To overcome this limitation, a bootstrap variance estimator, which estimates the variance by simulating the sampling procedure (see Kaufman 2001) was implemented for the 1993–94 SASS, and its role was expanded in 1999–2000 and even more so in the 2003–04 SASS (see chapter 9 in the *Documentation for the 2007–08 Schools and Staffing Survey* [NCES 2010-332]). The bootstrap variance estimator was used for public schools, most private schools, and public school districts in 1993–94. In 1999–2000, an additional bootstrap estimator was also included for public schools and most private schools. The bootstrap estimator used in the 2003–04 SASS was modified from the 1999–2000 estimator to make it more stable. In the 2003–04 SASS a new bootstrap estimator for both public and private school teachers was included. The bootstrap variance reflects the increase in precision due to large sampling rates because the bootstrap sampling is done systematically, without replacement, as was the original sampling.

Public schools, public school teachers, private schools sampled from the list frame, and private school teachers from schools sampled from the list frame were calculated using the updated bootstrap system. This system is based on a series of assumptions about the sampling design:

1. The traditional systematic PPS first-stage sample can be approximated using a randomized systematic sample.
2. The stratified equal probability systematic sample can be approximated by a stratified, without replacement, simple random sample.

Using these assumptions, the bootstrap replicate weights are computed from a single sample. Again, the appropriate bootstrap replicate base weights (inverse of the probability of selection) generated for the sample were subsequently reweighted by processing each set of replicate basic weights through the weighting procedure.

Since the number of certainty schools (i.e., schools that are guaranteed selection) is substantial, it was desirable to address the variance that results from nonresponse. Therefore, it was decided to treat nonresponse as a stage of sample selection. For certainty schools, this allowed for the reflection of a variance component that otherwise would be regarded as a bias. The nonresponse sampling model is as follows:

*   For noncertainty schools, nonresponse is considered a nested random process within selected primary sampling units. That is, school nonresponse is assumed to be a random process within the random sample. Within appropriately defined cells (weighting classes), it is assumed nonresponse follows a "missing-at-random process."
*   For certainty schools, nonresponse is considered the first stage of selection. It is assumed that this process follows a simple random sample without replacement model within appropriately defined cells. The frame size for this selection is assumed to be the number of selected certainty schools in the cell and the sample size is the number of responding certainty schools in the cell.

This procedure also allows for correctly estimating variances for school-based estimates that use school teacher averages generated from the 2007–08 SASS teacher data files.

To be consistent with the bootstrap procedures described above, the nonresponse modeling of certainty schools was reflected through an appropriately defined bootstrap procedure. For more details on the

bootstrap methodology and how it applies to SASS, see Efron (1982), Kaufman (1992, 1993, 1994, 1998, and 2001), and Sitter (1990).

The newest version of the bootstrap procedure made it possible to compute teacher bootstrap replicate weights at the same time as the school weights, considerably reducing the processing time to form the replicates.

Each SASS data file includes a set of 88 replicate weights designed to produce variance estimates. Replicate weights were created for each of the 88 samples using the same estimation procedures used for the full sample and are included in the data files. Most of the replicate weights were produced using a bootstrap procedure. For TFS, the replicate weights were derived based on the SASS teacher replicate weights, making appropriate adjustments for the TFS sampling procedure.

As described above, the replicate weights are used to compute the variance of a statistic, *Y*, as given below.

$$\text{Variance } (Y) = \left(\frac{1}{88}\right) \sum_{r=1}^{88} (Y_r - Y)^2$$

where: Y_r = the estimate of *Y* using the rth set of replicate weights, and the number of replicate weights is 88 for SASS and TFS.

Analysis of the bootstrap replicate weights revealed that approximately 3 percent of the school (public and private) and teacher (public and private) weights fell outside a 95 percent confidence interval. These are nearly the expected 5 percent, indicating the bootstrap replicate weights are close to being normally distributed. Since the TFS replicate weights are based on the SASS teacher replicate weights, the same distribution applies.

TFS Teachers. Since the TFS sample was a proper subsample of the SASS teacher sample (i.e., TFS is representative of the whole SASS teacher sample), the SASS teacher replicates were used for the TFS sample. The TFS base weight for each TFS teacher was multiplied by each of the 88 SASS replicate weights divided by the SASS teacher full-sample base weight for that teacher. To calculate 88 replicate weights, which should be used for variance calculations, these TFS replicate basic weights were processed through the remainder of the TFS weighting system. The replicate weights for TFS teachers are TFRPWT1 through TFRPWT88.

The SASS teacher replicate weights were generated at the same time as the school replicate weights as part of the 2007–08 bootstrap system. BRR methodology was employed rather than bootstrap if a private school teacher's school was sampled from the private school area frame. Teacher records were assigned replicate weights by multiplying the school BRR replicate weight times the teacher's conditional probability of selection given the school was selected in the SASS school sample.

A variance estimate is obtained by first calculating the estimate for each replicate, then summing the squared deviations of the replicate estimates from the full-sample estimate, and finally dividing by the number of replicates:

$$\sum_{k=1}^{88} (\hat{y}_k - \hat{y})^2 / 88$$

where $k = 1, 2 .....88,$

$y_k = k^{th}$ replicate estimate, and

y = full sample estimate.

When calculating variance estimates for some small subdomains of interest (e.g., vocational education teachers), sparseness of the data may result in there being no data for some replicates. This can result in either an extremely large variance estimate or failure of the software used to calculate the variance, with possibly a warning message.

The computation of sampling errors for either TFS or SASS data using these replicate weights can be done easily with one of the following software programs: WesVar Complex Sample Software, SUDAAN (Research Triangle Institute 2008), AM Statistical Software, or STATA 9.

- *WesVa*r—The user needs to create a new WesVar data file by specifying the full sample weight variable and the replicate weight variables as defined above, and the replication method, BRR. The replicate weights and the full sample weight can be highlighted and dragged to their appropriate place on the "New WesVar Data File" window. For more information, visit http://www.westat.com/westat/statistical_software/wesvar/index.cfm .
- *SUDAAN*—The user needs to specify the sample design as a "Balanced Repeated replication" design as well as the replicate weight variables. Specifying the sample design (DESIGN = BRR) is done in the procedure call statement (i.e., PROC DESCRIPT DESIGN = BRR;). The specification of the replicate weights is done with the REPWGT statement (i.e., to produce the sampling errors for estimates from TFS data files use the statement: REPWGT TFRPWT1-TFRPWT88;). For more information, visit www.rti.org/sudaan/.
- *AM*—The user needs to set the replicate weights along with the replication method using the right-click context menu in the variable list window. Once the "Set Replicate Weights" window is displayed, the replicate weights as identified above can be highlighted and dragged into the window. At the bottom of the window are four options from replication method; BRR should be selected. For more information, visit http://am.air.org.
- *STATA*—The use of replicate weights for the generation of standard errors was first introduced in STATA 9. First, the user needs to survey set the data (SVY SET) by defining the probability weight ([pw =]), balanced repeated replication weights (brrweight(varlist)), variance estimation type (vce(brr)), and turning on the mse formula (mse). Once these parameters are set, users are able to call up the survey settings and tell STATA which type of standard errors to produce using the SVY BRR command. SVY BRR also allows users to specify the statistics to be collected (exp_list) and the command to perform (e.g., mean or tab). For more information visit http://www.stata.com.

For more information about the Bootstrap variance methodology and how it applies to SASS see:

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Chapter 8. Reviewing the Quality of TFS Data

The National Center for Education Statistics (NCES) program staff are responsible for ensuring that data files are acceptable for public release. Before files are released to the public, staff members review the data for errors associated with the edit, imputation, and weighting programs. This review incorporates a number of checks including univariate, bivariate, and multivariate analyses that rigorously examine as many aspects of the data as possible without delaying timely release of Teacher Follow-up Survey (TFS) datasets.

Below are aspects of the datasets that were reviewed:

- general data quality;
- nonresponse;
- weighting; and
- external data checks, including an examination of response variance.

General Data Quality

General data quality included a number of reviews that could be characterized as consistency edits. These checks involved an examination of the individual responses, patterns of response, and summary statistics for variables and files to ensure consistency within items, respondents, and data files. In addition, key variables and crosstabulations of key variables were examined for distributions and relationships that were expected based upon prior administrations and other research to check the data's face validity.

The specific data checks included:

- *Edits*. The validity of the skip patterns in each TFS questionnaire was established during the processing of the data; that is, U.S. Census Bureau analysts verified that each item in each questionnaire had the number of responses it should have if skip instructions were followed correctly. Quality checks on the edit specifications were performed and resulted in some corrections.
- *Frequency counts*. Unweighted record counts for every variable were examined from the restricted-use data files. Variables with out-of-range values or inconsistent values were identified, and these values were corrected.
- *Reasonableness of data*. Univariate, bivariate, and multivariate tabulations of key survey variables were obtained and compared to estimates from the previous TFS survey. Tabulations were reviewed to determine whether the basic relationships observed were within reasonable bounds, allowing for elements of change (such as random fluctuations in variance, or a trend such as overall population growth in a state). The distributions and relationships observed were consistent with expectations.

Nonresponse

Response rates were examined for possible bias, and no evidence of bias at the unit or item level was found. The details of this analysis are discussed in greater detail in chapter 5.

Weighting

The weighting review consisted of reviewing the distribution of TFS replicate weights. The details of weighting are discussed in greater detail in chapter 7.

External Data Checks

One way to verify the external validity of TFS data was to compare the total number of teachers in the 2008–09 TFS to the total number of teachers in the 2007–08 Schools and Staffing Survey (SASS). The ratio of teachers in TFS to teachers in SASS indicates whether TFS population totals were within reasonable bounds of the SASS population totals since the magnitude of the sampling error relates directly to sample size and the percentage of the universe covered by that sample.

The following tables compare the final-weighted number of TFS teachers to SASS teachers within all three school types (i.e., traditional public, public charter, and private schools) and by selected SASS teacher and school characteristics. Table 20 compares the total number of TFS teachers to the total number of SASS teachers, table 21 compares the number of TFS teachers to the number of SASS teachers in public and private schools, and table 22 compares the number of TFS teachers to the number of SASS teachers in traditional public and public charter schools.

The total final-weighted estimate of teachers in SASS that is represented by the TFS sample across all school types (i.e., traditional public, public charter, and private school teachers) is 99.3 percent (table 20). For public school teachers, 99.3 percent of the SASS population estimate is captured by TFS, and for private school teachers 99.5 percent is captured (table 21).

When comparing the ratio of the final-weighted total number of teachers in TFS to the final-weighted total in SASS, several noteworthy differences can be observed (tables 20, 21, and 22). There were 225 percent more teachers in TFS than in SASS who were identified as leavers and movers during sampling for TFS—220 percent more among base-year public school teachers and 260 percent more among base-year private school teachers (table 21). The difference is considerably greater when traditional public school teachers (217 percent) are separated from public charter school teachers (363 percent) (table 22). The TFS population contained a larger proportion of non-Hispanic Native Hawaiian/Pacific Islander teachers (188 percent) (table 20). This difference is considerably greater among private school teachers (333 percent) (table 21), yet there were no public charter school teachers in this category (table 22). On the other hand, the TFS sample contained a smaller proportion of non-Hispanic American Indian/Alaska Native (65 percent) with even fewer (36 percent) among private school teachers (tables 20 and 21). The proportion among public charter school teachers was much larger at 245 percent (table 22). It should be noted that the TFS sampling plan stratifies by race/ethnicity status (non-Hispanic White vs. all other race/ethnicities) and not by detailed race/ethnicity. Collapsing the race/ethnicity variable into a dichotomy reveals that 99.6 percent of public school teachers of all race/ethnicities other than non-Hispanic White in SASS and 94.3 percent of private school teachers of all race/ethnicities other than non-Hispanic White in SASS are represented in TFS. Among base-year public charter school teachers, 94.7 percent of teachers of all race/ethnicities other than non-Hispanic White are represented in TFS. Although it is not particularly worth mentioning that there were 107 percent more teachers with an associate's degree as their highest degree in TFS than in SASS, it is interesting to note that this difference is mostly in public schools (164 percent compared to 67 percent in private schools and 168 percent in traditional public schools compared to 105 percent in public charter schools) (tables 20 and 21).

It should be kept in mind that TFS only controls for status (stayers, movers, leavers, and unknown), within school type (traditional public, public charter, and private), experience groups (new/experienced), teacher's grade level (elementary/middle/secondary), and race/ethnicity status (non-Hispanic White and all other race/ethnicities). Because of this, the uncontrolled variables tend to have high variances and produce random fluctuations.

Table 20.   **Final-weighted number of total school stayer and nonstayer teachers in the 2008–09 TFS compared to teachers in the 2007–08 SASS, by TFS sampling strata from base year and selected school and teacher characteristics: 2007–08 and 2008–09**

Sampling strata and selected school and teacher characteristics	Number of stayer teachers in TFS	Number of nonstayer teachers in TFS	Total number of TFS teachers	Total number of teachers in SASS	Ratio of total number of teachers in TFS to total in SASS
Total	3,240,895	626,679	3,867,574	3,894,067	0.993
TFS sampling strata					
TFS status					
Leaver or mover	0	626,679	626,679	278,014	2.254
Stayer	3,240,895	0	3,240,895	3,534,235	0.917
Don't know	0	0	0	81,819	0.000
Teaching level in SASS year					
Elementary	1,673,921	319,372	1,993,293	1,983,196	1.005
Secondary	1,566,975	307,307	1,874,281	1,910,871	0.981
Teaching experience in SASS					
Three or fewer years	482,003	158,333	640,335	681,612	0.939
More than 3 years	2,758,893	468,346	3,227,239	3,212,455	1.005
SASS teacher characteristics					
Teaching status					
Full-time	2,945,272	527,108	3,472,380	3,514,580	0.988
Part-time	295,623	99,571	395,194	379,487	1.041
Main assignment					
Early childhood/general elementary	1,087,691	175,900	1,263,592	1,264,542	0.999
Special education	318,916	93,233	412,148	409,767	1.006
Arts/music	221,422	29,294	250,715	263,373	0.952
English/language arts	388,398	87,187	475,586	461,783	1.030
Mathematics	271,421	45,766	317,187	323,521	0.980
Natural sciences	198,287	39,485	237,772	247,061	0.962
Social sciences	211,720	40,187	251,908	257,448	0.978
All others	543,040	115,627	658,667	666,572	0.988
Sex					
Male	743,930	144,361	888,291	948,381	0.937
Female	2,496,965	482,317	2,979,283	2,945,686	1.011
Race/ethnicity					
White, non-Hispanic	2,728,120	503,807	3,231,927	3,252,236	0.994
Black, non-Hispanic	217,968	55,284	273,252	259,268	1.054
Hispanic	216,160	47,349	263,509	269,129	0.979
Asian, non-Hispanic	31,732	8,525	40,257	52,401	0.768
Native Hawaiian/Pacific Islander, non-Hispanic	10,445	4,611	15,056	8,023	1.877
American Indian/Alaska Native, non-Hispanic	9,744	2,568	12,313	18,829	0.654
Two or more races, non-Hispanic	26,727	4,534	31,261	34,182	0.915

See notes at end of table.

Table 20.   **Final-weighted number of total school stayer and nonstayer teachers in the 2008–09 TFS compared to teachers in the 2007–08 SASS, by TFS sampling strata from base year and selected school and teacher characteristics: 2007–08 and 2008–09—Continued**

Sampling strata and selected school and teacher characteristics	Number of stayer teachers in TFS	Number of nonstayer teachers in TFS	Total number of TFS teachers	Total number of teachers in SASS	Ratio of total number of teachers in TFS to total in SASS
SASS teacher characteristics—Continued					
Age					
Less than 30 years	492,116	162,022	654,138	691,513	0.946
30 to 39 years	826,412	163,982	990,394	1,007,595	0.983
40 to 49 years	810,980	100,953	911,933	923,999	0.987
50 or more years	1,111,388	199,721	1,311,109	1,270,959	1.032
Highest degree earned					
Associate's or no degree	55,459	15,765	71,224	66,852	1.065
Bachelor's	1,525,151	308,171	1,833,322	1,876,214	0.977
Master's	1,444,337	252,892	1,697,229	1,677,170	1.012
Higher than a master's degree	215,947	49,851	265,798	273,832	0.971
Base salary					
Less than $30,000	304,252	74,818	379,069	355,867	1.065
$30,000–$49,999	1,736,885	360,083	2,096,968	2,055,180	1.020
$50,000–$74,999	959,046	164,530	1,123,576	1,250,801	0.898
$75,000 or more	240,712	27,248	267,960	232,219	1.154
Characteristics of SASS school					
Census region					
Northeast	632,615	109,101	741,716	798,037	0.929
Midwest	779,528	124,614	904,142	885,281	1.021
South	1,193,608	271,849	1,465,457	1,477,927	0.992
West	635,145	121,114	756,259	732,822	1.032
Community type					
City	973,075	193,606	1,166,680	1,085,701	1.075
Suburb	1,078,398	212,241	1,290,639	1,380,249	0.935
Town	411,356	74,034	485,390	504,530	0.962
Rural	778,067	146,798	924,865	923,587	1.001
School enrollment					
Fewer than 200	300,081	91,604	391,685	355,961	1.100
200–499	999,572	204,989	1,204,561	1,201,153	1.003
500–749	767,561	108,802	876,364	912,208	0.961
750–999	398,322	85,240	483,562	516,258	0.937
1,000 or more	775,360	136,044	911,403	908,487	1.003

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public and Private School Teacher Data Files," 2007–08, and Teacher Follow-up Survey (TFS), "Former and Current Teacher Documentation Data Files," 2008–09.

Table 21. **Final-weighted number of public and private school stayer and nonstayer teachers in the 2008–09 TFS compared to teachers in the 2007–08 SASS, by TFS sampling strata from base year and selected school and teacher characteristics: 2007–08 and 2008–09**

Sampling strata and selected school and teacher characteristics	Public (as identified in SASS)					Private (as identified in SASS)				
	Number of stayer teachers in TFS	Number of nonstayer teachers in TFS	Total number of TFS teachers	Total number of teachers in SASS	Ratio of total number of teachers in TFS to total in SASS	Number of stayer teachers in TFS	Number of nonstayer teachers in TFS	Total number of TFS teachers	Total number of teachers in SASS	Ratio of total number of teachers in TFS to total in SASS
Total	2,854,876	525,429	3,380,305	3,404,521	0.993	386,019	101,250	487,270	489,546	0.995
TFS sampling strata										
TFS status										
Leaver or mover	0	525,429	525,429	239,118	2.197	0	101,250	101,250	38,895	2.603
Stayer	2,854,876	0	2,854,876	3,102,137	0.920	386,019	0	386,019	432,098	0.893
Don't know	0	0	0	63,266	0.000	0	0	0	18,553	0.000
Teaching level in SASS year										
Elementary	1,470,360	267,914	1,738,274	1,724,874	1.008	203,560	51,458	255,019	258,321	0.987
Secondary	1,384,516	257,515	1,642,031	1,679,647	0.978	182,459	49,792	232,251	231,224	1.004
Teaching experience in SASS										
Three or fewer years	407,342	127,129	534,471	578,551	0.924	74,660	31,204	105,864	103,061	1.027
More than 3 years	2,447,534	398,300	2,845,834	2,825,971	1.007	311,359	70,046	381,405	386,485	0.987
SASS teacher characteristics										
Teaching status										
Full-time	2,621,648	455,939	3,077,586	3,126,865	0.984	323,624	71,169	394,794	387,715	1.018
Part-time	233,228	69,490	302,718	277,656	1.090	62,395	30,081	92,476	101,830	0.908
Main assignment										
Early childhood/ general elementary	958,895	143,066	1,101,961	1,100,738	1.001	128,796	32,834	161,630	163,804	0.987
Special education	309,073	87,416	396,489	394,796	1.004	9,843	5,817	15,660	14,971	1.046
Arts/music	188,145	24,695	212,839	224,254	0.949	33,277	4,599	37,876	39,118	0.968
English/language arts	342,687	76,144	418,832	409,981	1.022	45,711	11,043	56,754	51,802	1.096
Mathematics	236,440	39,717	276,157	280,482	0.985	34,981	6,049	41,030	43,039	0.953
Natural sciences	166,690	31,878	198,568	210,529	0.943	31,597	7,607	39,203	36,533	1.073
Social sciences	180,265	33,881	214,146	222,737	0.961	31,455	6,306	37,761	34,711	1.088
All others	472,680	88,631	561,311	561,004	1.001	70,360	26,996	97,356	105,568	0.922
Sex										
Male	642,893	119,116	762,010	820,922	0.928	101,037	25,245	126,282	127,459	0.991
Female	2,211,983	406,312	2,618,295	2,583,599	1.013	284,983	76,005	360,988	362,087	0.997

See notes at end of table.

Table 21. **Final-weighted number of public and private school stayer and nonstayer teachers in the 2008–09 TFS compared to teachers in the 2007–08 SASS, by TFS sampling strata from base year and selected school and teacher characteristics: 2007–08 and 2008–09—Continued**

Sampling strata and selected school and teacher characteristics	Public (as identified in SASS)					Private (as identified in SASS)				
	Number of stayer teachers in TFS	Number of nonstayer teachers in TFS	Total number of TFS teachers	Total number of teachers in SASS	Ratio of total number of teachers in TFS to total in SASS	Number of stayer teachers in TFS	Number of nonstayer teachers in TFS	Total number of TFS teachers	Total number of teachers in SASS	Ratio of total number of teachers in TFS to total in SASS
SASS teacher characteristics— Continued										
Race/ethnicity										
White, non-Hispanic	2,385,437	421,872	2,807,309	2,829,154	0.992	342,683	81,935	424,618	423,082	1.004
Black, non-Hispanic	207,619	50,227	257,846	239,464	1.077	10,349	5,058	15,407	19,804	0.778
Hispanic	194,521	37,721	232,242	240,308	0.966	21,639	9,628	31,266	28,820	1.085
Asian, non-Hispanic	28,226	7,256	35,482	41,825	0.848	3,505	1,269	4,774	10,575	0.451
Native Hawaiian/ Pacific Islander, non-Hispanic	8,153	1,802	9,955	6,489	1.534	2,291	2,809	5,101	1,534	3.326
American Indian/ Alaska Native, non-Hispanic	9,524	2,016	11,540	16,669	0.692	220	552	772	2,160	0.358
Two or more races, non-Hispanic	21,395	4,534	25,929	30,611	0.847	5,332	0	5,332	3,571	1.493
Age										
Less than 30 years	437,691	137,446	575,137	611,847	0.940	54,425	24,576	79,001	79,666	0.992
30 to 39 years	730,339	135,181	865,521	898,338	0.963	96,072	28,801	124,873	109,257	1.143
40 to 49 years	727,908	84,800	812,708	807,675	1.006	83,071	16,153	99,225	116,324	0.853
50 or more years	958,938	168,001	1,126,939	1,086,661	1.037	152,450	31,720	184,170	184,298	0.999
Highest degree earned										
Associate's or no degree	36,007	8,534	44,542	27,088	1.644	19,452	7,230	26,683	39,764	0.671
Bachelor's	1,312,028	252,079	1,564,108	1,612,499	0.970	213,123	56,092	269,215	263,715	1.021
Master's	1,318,583	218,361	1,536,944	1,516,645	1.013	125,755	34,531	160,285	160,525	0.999
Higher than a master's degree	188,257	46,454	234,712	248,289	0.945	27,690	3,397	31,087	25,542	1.217
Base salary										
Less than $30,000	157,729	26,199	183,929	157,865	1.165	146,523	48,618	195,141	198,002	0.986
$30,000–$49,999	1,562,968	317,755	1,880,723	1,832,707	1.026	173,917	42,327	216,244	222,473	0.972
$50,000–$74,999	900,829	154,964	1,055,793	1,189,120	0.888	58,217	9,566	67,784	61,681	1.099
$75,000 or more	233,349	26,510	259,860	224,829	1.156	7,363	738	8,101	7,390	1.096

See notes at end of table.

Table 21. **Final-weighted number of public and private school stayer and nonstayer teachers in the 2008–09 TFS compared to teachers in the 2007–08 SASS, by TFS sampling strata from base year and selected school and teacher characteristics: 2007–08 and 2008–09—Continued**

Sampling strata and selected school and teacher characteristics	Public (as identified in SASS)					Private (as identified in SASS)				
	Number of stayer teachers in TFS	Number of nonstayer teachers in TFS	Total number of TFS teachers	Total number of teachers in SASS	Ratio of total number of teachers in TFS to total in SASS	Number of stayer teachers in TFS	Number of nonstayer teachers in TFS	Total number of TFS teachers	Total number of teachers in SASS	Ratio of total number of teachers in TFS to total in SASS
Characteristics of SASS school										
Census region										
Northeast	543,719	87,244	630,963	678,771	0.930	88,896	21,857	110,753	119,266	0.929
Midwest	691,163	100,887	792,050	773,301	1.024	88,365	23,727	112,092	111,981	1.001
South	1,056,907	232,157	1,289,063	1,304,719	0.988	136,701	39,692	176,394	173,208	1.018
West	563,087	105,141	668,228	647,731	1.032	72,058	15,973	88,030	85,091	1.035
Community type										
City	802,707	147,250	949,957	882,434	1.077	170,368	46,356	216,724	203,267	1.066
Suburb	941,624	175,997	1,117,621	1,200,729	0.931	136,774	36,244	173,018	179,520	0.964
Town	387,882	68,931	456,813	467,505	0.977	23,475	5,103	28,578	37,025	0.772
Rural	722,664	133,251	855,915	853,854	1.002	55,403	13,547	68,950	69,733	0.989
School enrollment										
Fewer than 200	168,297	40,891	209,188	172,888	1.210	131,784	50,712	182,496	183,073	0.997
200–499	854,255	175,765	1,030,019	1,029,847	1.000	145,317	29,224	174,541	171,306	1.019
500–749	704,803	99,167	803,970	845,097	0.951	62,759	9,635	72,394	67,110	1.079
750–999	380,481	81,903	462,384	488,623	0.946	17,841	3,338	21,178	27,635	0.766
1,000 or more	747,040	127,703	874,743	868,066	1.008	28,319	8,340	36,660	40,422	0.907

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public and Private School Teacher Data Files," 2007–08, and Teacher Follow-up Survey (TFS), "Former and Current Teacher Documentation Data Files," 2008–09.

Table 22.   **Final-weighted number of traditional public and public charter school stayer and nonstayer teachers in the 2008–09 TFS compared to teachers in the 2007–08 SASS, by TFS sampling strata from base year and selected school and teacher characteristics: 2007–08 and 2008–09**

Sampling strata and selected school and teacher characteristics	Traditional public (as identified in SASS)					Public charter (as identified in SASS)				
	Number of stayer teachers in TFS	Number of nonstayer teachers in TFS	Total number of TFS teachers	Total number of teachers in SASS	Ratio of total number of teachers in TFS to total in SASS	Number of stayer teachers in TFS	Number of nonstayer teachers in TFS	Total number of TFS teachers	Total number of teachers in SASS	Ratio of total number of teachers in TFS to total in SASS
Total	2,800,707	508,481	3,309,188	3,332,094	0.993	54,169	16,948	71,117	72,428	0.982
TFS sampling strata										
TFS status										
Leaver or mover	0	508,481	508,481	234,446	2.169	0	16,948	16,948	4,672	3.628
Stayer	2,800,707	0	2,800,707	3,038,636	0.922	54,169	0	54,169	63,501	0.853
Don't know	0	0	0	59,011	0.000	0	0	0	4,255	0.000
Teaching level in SASS year										
Elementary	1,441,652	260,350	1,702,002	1,688,172	1.008	28,708	7,564	36,272	36,702	0.988
Secondary	1,359,055	248,131	1,607,186	1,643,922	0.978	25,461	9,384	34,845	35,725	0.975
Teaching experience in SASS										
Three or fewer years	392,353	120,565	512,919	554,081	0.926	14,989	6,563	21,552	24,470	0.881
More than 3 years	2,408,354	387,915	2,796,269	2,778,013	1.007	39,180	10,385	49,564	47,958	1.033
SASS teacher characteristics										
Teaching status										
Full-time	2,574,811	439,915	3,014,726	3,060,922	0.985	46,837	16,023	62,860	65,943	0.953
Part-time	225,896	68,565	294,462	271,172	1.086	7,332	925	8,256	6,485	1.273
Main assignment										
Early childhood/ general elementary	938,688	137,212	1,075,899	1,075,445	1.000	20,208	5,854	26,062	25,293	1.030
Special education	305,360	85,986	391,346	389,654	1.004	3,714	1,429	5,143	5,143	1.000
Arts/music	184,427	23,148	207,575	219,249	0.947	3,717	1,547	5,264	5,005	1.052
English/language arts	333,854	72,872	406,726	400,973	1.014	8,834	3,272	12,106	9,009	1.344
Mathematics	230,860	38,772	269,632	274,001	0.984	5,580	946	6,526	6,481	1.007
Natural sciences	163,103	30,385	193,488	204,508	0.946	3,587	1,493	5,080	6,021	0.844
Social sciences	176,342	32,860	209,202	216,917	0.964	3,923	1,021	4,945	5,819	0.850
All others	468,074	87,246	555,320	551,347	1.007	4,607	1,384	5,991	9,657	0.620
Sex										
Male	630,471	115,157	745,628	803,752	0.928	12,422	3,959	16,382	17,170	0.954
Female	2,170,236	393,324	2,563,560	2,528,342	1.014	41,746	12,989	54,735	55,257	0.991

See notes at end of table.

Table 22. **Final-weighted number of traditional public and public charter school stayer and nonstayer teachers in the 2008–09 TFS compared to teachers in the 2007–08 SASS, by TFS sampling strata from base year and selected school and teacher characteristics: 2007–08 and 2008–09—Continued**

Sampling strata and selected school and teacher characteristics	Traditional public (as identified in SASS)					Public charter (as identified in SASS)				
	Number of stayer teachers in TFS	Number of nonstayer teachers in TFS	Total number of TFS teachers	Total number of teachers in SASS	Ratio of total number of teachers in TFS to total in SASS	Number of stayer teachers in TFS	Number of nonstayer teachers in TFS	Total number of TFS teachers	Total number of teachers in SASS	Ratio of total number of teachers in TFS to total in SASS
SASS teacher characteristics— Continued										
Race/ethnicity										
White, non-Hispanic	2,344,175	410,586	2,754,761	2,776,336	0.992	41,262	11,286	52,548	52,818	0.995
Black, non-Hispanic	204,059	47,107	251,166	230,527	1.090	3,560	3,120	6,680	8,937	0.747
Hispanic	188,425	36,629	225,054	233,540	0.964	6,096	1,092	7,188	6,769	1.062
Asian, non-Hispanic	28,015	6,774	34,789	39,953	0.871	211	483	693	1,872	0.370
Native Hawaiian/ Pacific Islander, non-Hispanic	8,153	1,802	9,955	6,292	1.582	0	0	0	197	0.000
American Indian/ Alaska Native, non-Hispanic	9,144	1,980	11,124	16,499	0.674	380	37	416	170	2.450
Two or more races, non-Hispanic	18,735	3,604	22,339	28,946	0.772	2,660	930	3,590	1,665	2.156
Age										
Less than 30 years	420,302	131,100	551,402	588,651	0.937	17,389	6,347	23,735	23,195	1.023
30 to 39 years	712,940	130,850	843,790	877,539	0.962	17,399	4,332	21,730	20,799	1.045
40 to 49 years	721,311	81,355	802,666	793,720	1.011	6,598	3,444	10,042	13,955	0.720
50 or more years	946,154	165,176	1,111,330	1,072,182	1.037	12,784	2,825	15,609	14,479	1.078
Highest degree earned										
Associate's or no degree	34,912	8,201	43,113	25,722	1.676	1,095	334	1,429	1,366	1.046
Bachelor's	1,280,328	241,177	1,521,506	1,567,469	0.971	31,700	10,902	42,602	45,030	0.946
Master's	1,301,116	213,015	1,514,131	1,494,939	1.013	17,467	5,346	22,813	21,707	1.051
Higher than a master's degree	184,351	46,088	230,438	243,964	0.945	3,907	366	4,273	4,325	0.988
Base salary										
Less than $30,000	148,520	23,208	171,728	149,335	1.150	9,209	2,991	12,200	8,530	1.430
$30,000–$49,999	1,523,889	305,632	1,829,520	1,780,931	1.027	39,079	12,124	51,203	51,776	0.989
$50,000–$74,999	894,949	153,271	1,048,220	1,177,619	0.890	5,880	1,693	7,573	11,501	0.658
$75,000 or more	233,349	26,370	259,719	224,208	1.158	0	141	141	621	0.226

See notes at end of table.

Table 22.   Final-weighted number of traditional public and public charter school stayer and nonstayer teachers in the 2008–09 TFS compared to teachers in the 2007–08 SASS, by TFS sampling strata from base year and selected school and teacher characteristics: 2007–08 and 2008–09—Continued

Sampling strata and selected school and teacher characteristics	Traditional public (as identified in SASS)					Public charter (as identified in SASS)				
	Number of stayer teachers in TFS	Number of nonstayer teachers in TFS	Total number of TFS teachers	Total number of teachers in SASS	Ratio of total number of teachers in TFS to total in SASS	Number of stayer teachers in TFS	Number of nonstayer teachers in TFS	Total number of TFS teachers	Total number of teachers in SASS	Ratio of total number of teachers in TFS to total in SASS
Characteristics of SASS school										
Census region										
Northeast	535,488	85,037	620,526	668,268	0.929	8,231	2,206	10,437	10,503	0.994
Midwest	680,733	97,488	778,221	755,478	1.030	10,430	3,399	13,829	17,823	0.776
South	1,043,651	224,726	1,268,377	1,283,413	0.988	13,256	7,430	20,686	21,306	0.971
West	540,835	101,229	642,064	624,935	1.027	22,252	3,912	26,164	22,796	1.148
Community type										
City	765,877	137,637	903,514	842,186	1.073	36,830	9,613	46,443	40,248	1.154
Suburb	931,619	172,101	1,103,720	1,183,700	0.932	10,005	3,896	13,901	17,029	0.816
Town	384,240	68,518	452,758	463,611	0.977	3,642	413	4,055	3,894	1.041
Rural	718,972	130,224	849,196	842,598	1.008	3,692	3,027	6,719	11,256	0.597
School enrollment										
Fewer than 200	158,537	36,102	194,639	158,982	1.224	9,760	4,789	14,549	13,906	1.046
200–499	832,347	168,572	1,000,919	998,276	1.003	21,907	7,192	29,100	31,571	0.922
500–749	692,818	96,741	789,559	830,693	0.950	11,984	2,426	14,410	14,405	1.000
750–999	376,462	80,845	457,307	483,655	0.946	4,019	1,057	5,076	4,968	1.022
1,000 or more	740,542	126,220	866,762	860,488	1.007	6,498	1,483	7,981	7,578	1.053

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Data File," 2007–08, and Teacher Follow-up Survey (TFS), "Former and Current Teacher Documentation Data Files," 2008–09.

Chapter 9. Information on Data Files and Merging Components

The 2008–09 Teacher Follow-up Survey (TFS) was composed of four survey questionnaires. Two versions of the Questionnaire for Current Teachers and two versions of the Questionnaire for Former Teachers were used. Separate, more lengthy versions of the current and former teacher questionnaires were sent to teachers whose first year of teaching in grades K–12 was in 2007 or 2008. The 2008–09 TFS Current and Former Teacher data files do not contain the additional items asked only of beginning teachers. These data may be found on the Beginning Teacher Longitudinal Study (BTLS) data file.[19]

The TFS questionnaires were administered to a sample of teachers from public (including public charter) and private schools that responded to the 2007–08 Schools and Staffing Survey (SASS). The two types of questionnaires became two data files that followed the populations targeted by the questionnaires: the Current Teacher data file (TFS-3), which includes teachers who remained in the same school as during the SASS school year (stayers) and teachers who moved to a new school in the 2008–09 school year (movers), and the Former Teacher data file (TFS-2), which includes teachers who left the pre-K–12 teaching profession after the 2007–08 school year (leavers). The table below identifies each data file and the questionnaire data used to build the file.

Table 23.   Names of data files and the questionnaires from which the data were drawn: 2008–09

Data file	Questionnaire source
Current Teacher	Questionnaire for Current Teachers (forms TFS-3 and TFS-3L)
Former Teacher	Questionnaire for Former Teachers (forms TFS-2 and TFS-2L)

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), 2008–09.

Availability of Data

At the time of publication, only TFS restricted-use data files have been released. If public-use data files are released later, information on how to access them will be provided on the NCES Website. Some general information on public-use data files is provided below.

The restricted-use TFS data files are available only to restricted-use SASS license holders and are in the form of SAS data files (value labels are included in the format library) and ASCII data files. The ASCII data files can be read into SPSS and Stata with input code available with the data product. The data include confidentiality edits, which add "noise" to the data in order to make the identification of respondents in published data less certain. (See the Confidentiality Edits to the Data section.)

The 2008–09 TFS data are released in accordance with the provisions of the amended National Education Statistics Act of 1994 (20 U.S.C. 9017), the Privacy Act of 1974, the Computer Security Act of 1987, and the U.S. Patriot Act of 2001. Under the provisions of Section 183 of the Education Sciences Reform Act of 2002, Public Law 107–279 (20 U.S.C. 9873), the National Center for Education Statistics (NCES) is responsible for protecting the confidentiality of individual respondents and releases data (CD-ROMs) for statistical purposes only. Record matching or deductive disclosure by any user is prohibited by federal law.

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[19] The BTLS Survey Documentation is expected to be released in the fall of 2011.

Restricted-Use Data Files

Access to restricted-use data files is limited to individuals associated with organizations that have received a license to use SASS data. Instructions on how to obtain a restricted-use license is discussed in the next paragraph. Data are restricted-use because they contain individually identifiable information, which is confidential and protected by law. While direct identifiers, such as the respondent's name, are not included on the data files, the restricted-use files do feature more variables that can indirectly identify a respondent or that can be used to link TFS and SASS with the Common Core of Data (CCD) or other data files, which could provide the name of the school and lead to the identification of individual respondents.

How to Obtain Restricted-Use Data Files. Researchers who can demonstrate a need for more detailed information may request access to the restricted-use datasets for statistical research purposes, provided that they follow computer security requirements and fill out an Affidavit of Nondisclosure.

Researchers requesting access to the restricted-use datasets must obtain a license to use those data by providing the following information:

- the title of the survey(s) to which access is desired;
- a detailed discussion of the statistical research project that necessitates accessing the NCES survey;
- the name of the principal project officer at the institution who will be heading up the research effort and who will enforce the legal provisions of the license agreement;
- the number, name(s), and job title(s) of professional and technical staff, including graduate students, who will be accessing the survey dataset;
- the estimated loan period necessary for accessing the NCES survey dataset; and
- a security plan for using and storing the data.

Applications for restricted-use licenses are only accepted through the Electronic Application System, which is accessible at http://nces.ed.gov/statprog/instruct.asp. All of the procedures are detailed in the Restricted-Use Data Procedures Manual, available online at http://nces.ed.gov/statprog/rudman/toc.asp. After the access request has been reviewed, the requestor will be informed whether a license to use the restricted data has been approved.

Requestors and/or institutions that violate the agreement are subject to a fine of not more than $250,000 (under the provisions of 18 U.S.C. 3559 and 3571) or imprisonment for not more than 5 years, or both. The confidentiality provisions that NCES must follow by law can be found at http://nces.ed.gov/statprog.

Public-Use Data Files

NCES uses the term "public-use data" for survey data when the individually-identifiable variables and data have been removed, recoded to collapse the number of categories, or perturbed to protect the confidentiality of survey respondents.

To protect the confidentiality of individual respondents, NCES makes only select data files available in public-use form. Procedures for disclosure avoidance are used in preparing public-use data files for release. For example, on TFS public-use data files, state names or codes are deleted and individually-identifiable data that could be used to identify specific teachers may be categorized, recoded, or removed. Disclosure risk analysis is used to determine the number and size of recoded categories of variables on the public-use data files.

Understanding the Restricted-Use Data Files

Confidentiality Edits to the Data

The restricted-use data files have been altered according to NCES standards. Known as confidentiality edits, "noise" was added to the data in order to make the identification of respondents in published data less certain. These edits directly alter some data for individual respondents, but preserve the overall distributions and level of detail in all variables included on the data file. There are several ways in which the data can be altered, including blanking and imputing for randomly selected records; blurring (e.g., combining multiple records through some averaging process into a single record); adding random noise; and data swapping or switching (e.g., switching the variable for age from a predetermined pair of individuals). While both restricted-use TFS data files were altered through one or more of these methods, careful attention was given to preserving the overall distributions and detail of the reported data.

Treatment of Public Charter Schools and Schools Funded by the Bureau of Indian Education

Teachers who taught in Bureau of Indian Education-funded (BIE) schools and public charter schools in the 2007–08 school year were included in the SASS sample. While teachers from public charter schools were sampled for TFS, those from BIE-funded schools were excluded from the data collection. Teachers from BIE-funded schools are not included in TFS because the sample size would be insufficient for analysis. In SASS, the data from BIE schools, principals, teachers, and school library media centers were placed on separate data files that include only BIE-funded school-related components. Teachers who taught in public schools with a high American Indian student enrollment, which was defined as at least 19.5 percent of the total enrollment, were oversampled for SASS and are included in TFS because these teachers work in public schools (see chapter 4 in the Documentation for the *2007–08 Schools and Staffing Survey* [NCES 2010-332] for details). These cases were included on the public sector SASS files.

Public charter schools were first included in the 1999–2000 administration of SASS. At that time, the number of public charter schools was small enough that all schools known to be operational in 1998–99 and still operating in 1999–2000 were surveyed. The number of public charter schools has continued to grow, making it more feasible to sample public charter schools. Consequently, public charter schools were sampled for the 2003–04 and 2007–08 administrations of SASS (see chapter 4 in the *Documentation for the 2007–08 Schools and Staffing Survey* [NCES 2010-332] for details). Data from these respondents were included in the public sector SASS and TFS data files. The variable CHARFLAG, which identifies whether the public school is a traditional public school or a public charter school, can be used for separately analyzing public charter school data. The variable CHARTYPE, on the SASS public sector data files, can be used to distinguish between public charter schools that are located in a regular school district and those that are not.

Categories of Variables

Variables on TFS data files were organized into the following five categories on each record layout: frame, survey, created, weighting, and imputation flag variables. The purpose of these categories is to help the user better understand what types of variables are included on the files.

Variables were classified as frame variables if they were drawn from, or based on, the TFS sampling frame, the SASS sampling frame, the Common Core of Data (CCD), or the Private School Universe Survey (PSS). Specifically, frame variables were drawn from the following sources: 2008–09 TFS frame, 2007–08 SASS frame, or 2005–06 CCD or PSS. Frame variables used in the SASS or TFS sampling

operations are explained in greater detail in chapter 3. Variables that were not used for sampling purposes but are classified as frame variables and placed on the data files were selected because they provide potentially valuable information to the user that is not available from the survey itself. Examples of frame variables include the respondent's control, or identification, number (i.e., CNTLNUMS for schools and CNTLNUMT for teachers) and locale codes (i.e., SLOCP12_TF, SLOCP12, URBANS12_TF, and URBANS12).

Survey variables are the actual variables drawn from the questionnaire responses. Each item on a questionnaire has a small five-digit alpha code printed to the left. This is the source code, or name of the variable on the data file.

Created variables are based on survey variables, frame variables, other created variables, or a combination of these. These variables are frequently used in NCES publications and have been added to the data files to facilitate data analysis. The code used to create these variables can be found in the Variable Layouts included in the release CD of the restricted-use data files as well as in appendix L.

There are two types of weighting variables on each TFS data file (for more information on weighting and standard errors, see chapter 7). The first is the sampling weight, or final weight for the respondent, and the second includes the 88 replicate weights. The final weight adjusts for nonresponse and oversampling and is used so that estimates represent the population rather than only the sample population. The replicate weights are used as a set to generate standard errors for estimates. On the TFS files, the final weight is called TFSFINWT and the replicate weights are TFRPWT1 through TFRPWT88.

The imputation flags identify whether or not a survey item was imputed due to missing data (see chapter 6 for details) or whether a SASS created variable was imputed because of a nonresponding school or district. All survey variables have a corresponding imputation flag that indicates whether a value was imputed and, if so, what method was used. All survey imputation flags begin with "F_" and are followed by the name of the variable. For example, the imputation flag for OCCSA from the TFS data files is F_OCCSA.

Certain created variables on TFS were also given imputation flags. These created variables were built with data from either the SASS district or school data files and placed on the TFS current and former teacher data files. However, if the district or school failed to respond to SASS, data would not be available to place on other files. These data were imputed using data from the sampling frame, if available, or through donors. The imputation flag for these created variables indicates whether the school or district failed to respond to SASS and, if so, the type of imputation used. If the school or district did not respond to SASS, data are still present for these variables on the TFS files. All created variable imputation flags begin with "FL_" and are followed by at least the beginning of the name of the created variable. For example, the variable ENRK12UG comes from the SASS school file and provides the total K–12 and ungraded enrollment in the base year school. It is placed on both the current and former teacher data files. The variable's imputation flag is called FL_ENRK.

Linking Files Within and Across TFS and SASS

SASS provides a rich dataset to analyze elementary and secondary education, and, by design, allows an analyst to link information from different surveys, such as adding school information to the teacher records. For information on how SASS data files and questionnaires are interrelated, please refer to the *Documentation for the 2007–08 Schools and Staffing Survey* (NCES 2010-332).

On the restricted-use TFS and SASS data files, any combination of the school, principal, teacher, and school library media center (if applicable) data files within each SASS school sector can be merged using the school's control number. As described in chapter 3 on sampling selection, the school was the primary sampling unit for SASS. For each sampled school, the principal, selected teachers, and the school library media center and district, if applicable, were included in SASS. Not all of these types of respondents chose to participate in SASS. Consequently, it is possible to have several teacher records but no corresponding school record, because the school did not complete the School Questionnaire. Similarly, the district could have agreed to allow its schools to participate in SASS but failed to complete the questionnaire, resulting in having completed questionnaires for teachers but no corresponding district data.

The school control number (CNTLNUMS) is present on all of the TFS and SASS data files, except for the Public School District Data File, and can be used to link them together. The public teacher, school, principal, and school library media center data files may be merged with the Public School District Data File using the district's control number (CNTLNUMD), which is included on the district data file as well as the public school, principal, teacher, and school library media center data files. The SASS and TFS teacher data files can be linked to provide data on two school years using the teacher's control number (CNTLNUMT). Because the SASS data files are divided by sector (i.e., public, private) and the TFS data files are not, it is important to combine the Public School Teacher and Private School Teacher data files before merging them to the TFS data files.

The files can be merged in two ways. The first method of merging is appending, or concatenating, data files. For example, if the user would like to analyze public and private school data, these files can be appended together. Because these files do not need to be "matched," no control number needs to be specified to append the data files. This type of merging is not discussed in this chapter. Please see the manual for the statistical program being used to determine how to append data files and for additional information on how to merge data files.

The second method of merging data files is by matching records using the teacher's, school's, or district's control number. For example, the data user could merge a school's record with the records of its teachers using the school's control number. However, the data user should carefully consider the unit of analysis when conducting analysis on merged files. With a one-to-one merge, such as combining principal and school characteristics, the unit of analysis could either be the principal or school, and the weight would be specified accordingly. However, a many-to-one merge could produce overinflated estimates if the unit of analysis is not chosen carefully. For example, a merged file produced from combining school characteristics to teacher records would require that the teacher be the unit of analysis. Because multiple teachers may be interviewed from the same school, estimates of schools, in this example, would contain multiple records from the same school. Only estimates with the teacher as the unit of analysis would be appropriate in this example. Instructions on how to merge files in SAS, SPSS, and Stata are provided below.

Sample SAS Syntax for Merging Files and Attaching Value Labels

Merging Restricted-Use TFS and SASS Teacher Data Files Using the Teacher Control Number (CNTLNUMT)

When merging records for teachers from the TFS data files to their records in the SASS data files, the teacher's control number, CNTLNUMT, is used to match files. In the SAS code below, please note that both data files being merged must be sorted by the variable listed in the "by" statement prior to performing the merge. Comments to explain lines of code are contained within "/* */." Words in italics are meant to be replaced by the file or variable names that the user specifies.

```
proc sort data = dataset1;
by CNTLNUMT;
run;
proc sort data = dataset2;
by CNTLNUMT;
run;
data newfilename;                    /* create new merged file name */
merge dataset1 (in=a) dataset2;      /* merges the two files and specifies dataset1 as
                                         unit of analysis*/
by CNTLNUMT;
if a = 1;                            /*keeps all dataset1 records and only matching
                                         dataset2 records*/
run;
```

The (in=a) convention seen in this example is used to identify the unit of analysis. It can be used in a variety of ways in one-to-one and one-to-many merges. For more information on different types of merges and using the (in=a) convention, users should refer to the SAS manual.

Merging Other SASS and TFS Restricted-Use Data Files

When merging any of the SASS school, principal, teacher, or school library media center data files together for a given school or when merging the teachers' TFS record with its SASS year school, principal, or school library media center data files, the school's control number, CNTLNUMS, is used to merge data files. The sample code provided above is correct, except that the merging variable will be CNTLNUMS.

To merge the Public School District Data File with other public sector data files, the district's control number (CNTLNUMD) should be used. This variable is included on the SASS Public School District, Public School, Public School Principal, Public School Teacher, and Public School Library Media Center Data Files as well as the TFS data files. The sample code provided above is correct, except that the merging variable will be CNTLNUMD.

Attaching Value Labels to SAS Data Files With Assigned Formats

The restricted-use SAS data files (with assigned formats) on the release CD have assigned value-label formats. These are provided in the SAS program files ending in _FMT.SAS. These format statements must be run first in order to create a format catalog to use with the formatted SAS datasets (data files ending in _FMT.SAS7BDAT).

The following statement should be used to run the format statements before reading in the formatted SAS data file:

```
%INCLUDE 'Path\formatfilename_FMT.SAS';
data workfile1;
set tfsdatafile;
run;
```

Continuing the example above, if the FORMER08_FMT.SAS program file for the FORMER08_FMT.SAS7BDAT data file has been placed in the C:\ directory, users would include the following statement:

```
 %INCLUDE 'C:\FORMER08_FMT.SAS';
data tfsworkfile;
set libname.FORMER08_FMT;
run;
```

Because formats are already assigned to the SAS datasets with assigned formats, it is not necessary to call up the labels. However, it is necessary to run the format statements before using the datasets with assigned formats.

Sample SPSS Syntax for Merging Data Files

NOTE: Both data files being merged must be sorted by the variable listed in the "by" statement prior to performing the merge. In SPSS, value labels are attached automatically during the extraction process. Words in italics are meant to be replaced by the file or variable names that the user specifies.

Merging Restricted-Use TFS and SASS Teacher Data Files Using the Teacher Control Number (CNTLNUMT)

When merging the teachers' TFS record with their SASS year record, the teacher's control number (CNTLNUMT) is used to merge the data files. The SPSS syntax is provided below.

```
get file = 'dataset1.sav'.
sort cases by CNTLNUMT(A).
save outfile = 'dataset1.sav'.
get file = 'dataset2.sav'.
sort cases by CNTLNUMT(A).
save outfile = 'dataset2.sav'.
match files file = 'dataset1.sav'          /* merges the two files and specifies dataset1 as
                                                        unit of analysis*/
          /table 'dataset2'
          /by CNTLNUMT.
save outfile = 'mergeddatafile.sav'.      /*creates new merged filename*/
```

Merging Other SASS and TFS Restricted-Use Data Files

When merging any of the SASS school, principal, teacher, or school library media center data files together for a given school or when merging the teachers' TFS record with its SASS year school, principal, or school library media center data files, the school's control number, CNTLNUMS, is used to merge data files. The sample code provided above is correct, except that the merging variable will be CNTLNUMS.

To merge the Public School District Data File with other public sector data files, including TFS teachers who taught in public schools in the SASS year, the district's control number (CNTLNUMD) should be used. This variable is included on the Public School District Data File as well as on the TFS data files and the SASS public school, principal, teacher, and school library media center data files. The sample code provided above is correct, except that the merging variable will be CNTLNUMD.

Sample Stata Syntax for Merging Data Files

Merging Restricted-Use TFS and SASS Teacher Data Files Using the Teacher Control Number (CNTLNUMT)

When merging the teachers' TFS record with their SASS year record, the teacher's control number (CNTLNUMT) is used to merge the data files. The Stata syntax is provided below. Both data files being merged must be sorted by the teacher control number prior to performing the merge. Words in italics are meant to be replaced by file or variable names that the user specifies.

> **use** *dataset1*
> **sort** CNTLNUMT
> **save** *dataset1*, **replace**
> **use** *dataset2*
> **sort** CNTLNUMT
> **save** *dataset2*, **replace**
> **merge** CNTLNUMT using dataset1   /*merges dataset1 onto dataset2 */
>   [optional statement: **merge** CNTLNUMT using *dataset1*, nolabel   /*no value
>   labels will be outputted */]
> **drop** if _merge!=3   /*maintains cases that are on dataset1 and dataset2*/
> **save** *newfilename*, **replace**   /*saves a new file with all matching dataset1 and
>   dataset2 records*/

When using Stata, a default merge variable is created during the merging of data files. The default name of this variable is _merge. The variable _merge identifies the various categories of data in a one-to-one merge and can be used to specify a unit of analysis. For example, if users merge the SASS teacher data file ("using" data file) onto the TFS data file ("master" data file):

> _merge==1   observations from dataset2 that are not in dataset1
> _merge==2   observations from dataset1 that are not in dataset2
> _merge==3   observations from dataset2 and from dataset1

Merging Other SASS and TFS Restricted-Use Data Files

When merging any of the SASS school, principal, teacher, or school library media center data files together for a given school or when merging the teachers' TFS record with its SASS year school, principal, or school library media center data files, the school's control number, CNTLNUMS, is used to merge data files. The sample code provided above is correct, except that the merging variable will be CNTLNUMS.

To merge the Public School District Data File with other public sector data files, including TFS teachers who taught in public schools in the SASS year, the district's control number (CNTLNUMD) should be used. This variable is included on the Public School District Data File as well as on the TFS data files and the SASS public school, principal, teacher, and school library media center data files. The sample code provided above is correct, except that the merging variable will be CNTLNUMD.

Chapter 10. User Notes and Cautions

The following notes cover cautions concerning change estimates with particular emphasis on the locale codes, estimates for the total number of teachers produced by the 2008–09 Teacher Follow-up Survey (TFS) and the 2007–08 Schools and Staffing Survey (SASS), changes to teaching experience, missing new school information, and user notes and cautions for the 2007–08 SASS.

Users may also be interested in examining the crosswalk of variables contained in "Appendix M. Crosswalk Among Items in the 2000–01, 2004–05, and 2008–09 TFS and With the 2007–08 SASS." This appendix has crosswalks for both TFS questionnaires.

Cautions Concerning Change Estimates

Care must be taken in estimating change over time in a TFS data element because some of the measured change may not be attributable to a change in the educational system but due to changes in the sampling frame, questionnaire item wording, or other changes. For example, the definitions of the locale codes based on the U.S. Census were revised in 2000 and again in 2003. Changes in how schools' locales are categorized over time may account for at least some changes that are noted from previous administrations. This impacts the urbanicity variables included in the 2008–09 TFS data files (e.g., SLOCP_12 and URBANS12), which are based on the Core-Based Statistical Area (CBSA) system of locale codes from the 2000 Census. Therefore, caution should be taken when comparing school urbanicity estimates from previous administrations to those from the 2008–09 TFS because the locale codes are not based on the same definitions.

The definition of locale codes changed between the 1999–2000 and 2003–04 SASS and again between the 2003–04 and 2007–08 administrations of SASS. Two major changes are noted here—the first is reflected in the "urban-centric" locale codes and the second is the use of a core-based statistical area system. The "urban-centric" locale codes are no longer county based and thus are based on a smaller geographic area. The new codes incorporate data on schools' physical location as captured by geographic mapping. Geocoding of schools is based upon the schools' latitude and longitude coordinates rather than less precise physical addresses. The Census Bureau maintains these in a geographic database that is kept up-to-date through the American Community Survey.

In 2003, the Office of Management and Budget replaced the term "Standardized Metropolitan Statistical Area" (SMSA) with the term "Core-Based Statistical Area" (CBSA) due to changes in definitions of metropolitan and nonmetropolitan areas. The 1990 Decennial Census geographic areas were based upon countywide definitions of metropolitan or nonmetropolitan areas. By the 2000 Census, urban and rural classifications were based on a subcounty level. The revised definition of metropolitan and nonmetropolitan areas moved away from population size and county boundaries and more towards the proximity of an address to an urbanized area. The new system is thus referred to as "urban-centric locale codes."

The overall effect of these definitional changes is to give more accuracy in describing the vicinity of schools. There is a new category for small cities, and rural areas that are truly remote can be distinguished from those closer to an urban core. The urban-centric system places a larger number of addresses in town locales and correspondingly fewer in the suburban/urban fringe. However, the percentage of schools that are in city locales does not change much with the urban-centric locale codes. The same is true for the percentage of schools in rural locales.

The previous version of the full set of locale codes used in SASS had eight categories: three for central cities, three for urban fringe related to the three central city groups, and two rural codes. These eight categories could then be collapsed down to three categories: central city, urban fringe/large town, and small town/rural. The revised, urban-centric locale code scheme now has 12 categories: three for principal cities, three for suburban areas related to principal cities, three for towns, and three for rural areas. These 12 categories collapse down to four levels: city, suburb, town, and rural. This is the version that is found on the 2007–08 SASS and 2008–09 TFS data files.

Estimates for Total Teachers

The total population estimate of teachers produced in TFS is slightly lower than that produced in SASS. The discrepancy is due to the fact that there were 48 respondents in SASS who were out of scope for TFS, because they had died, moved out of the country, or were determined not to have met the SASS definition of a teacher.[20] These teachers were removed from the TFS sampling frame. (See chapter 3 for more details on the sampling frame and chapter 7 for more details on weighting.)

Changes to Teaching Experience

For 143 teachers, a reporting error in the SASS questionnaire item asking about the year when the respondent first began teaching (T0037) was discovered. As a result, all data related to teaching experience has been updated based on this new information on the TFS data files. The following variables include the revised start date information: TOTYREXP_S, TTEXP_TF, NEWTCH_S, and BEGYR_S. The original SASS experience variables (TOTYREXP and NEWTCH) have been renamed with '_S' at the end to denote the change in values for selected cases.

The respondents' weight on the TFS data file reflects any changes in whether the respondent was a new teacher (i.e., having 1 to 3 years of teaching experience) or experienced teacher (i.e., 4 or more years of teaching experience) in SASS.

This discrepancy was discovered because these teachers were sampled for the Beginning Teacher Longitudinal Study. In the questionnaires given to these first-year teachers, additional detail was gathered on their starting date, which revealed that they had made a reporting error in SASS.

Missing New School Information

There are 276 teachers on the Current Teacher Data File who moved to a new school in the 2008–09 school year but did not provide enough information on the questionnaire to be able to identify the school on the Common Core of Data (CCD) or Private School Universe Survey (PSS). These cases have missing data (-9) for the school's ID (NCSID_TF) as well as the school's locale code (SLOCP12_TF).

In addition, there are 35 cases on the Current Teacher Data File where the new school was identified on the preliminary versions of the 2008–09 CCD or 2009–10 PSS. However, because the locale coding was not completed for these data files, the new school's locale (SLOCP12_TF) is missing (-9) on the TFS data file.

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[20] To be eligible for SASS, teachers must teach in an eligible school, teach at least one regularly scheduled class in any of grades K–12, and not be a short-term substitute, teacher aide, or student teacher. When contacted for TFS, some respondents indicated that they had not taught any of grades K–12 or comparable ungraded levels in the 2007–08 school year or held another position in the school (i.e., counselor, volunteer, etc.).

User Notes and Cautions for SASS

Please see chapter 12 in *Documentation for the 2007–08 Schools and Staffing Survey* (NCES 2010-322) for more details on user notes and cautions for data collected in the 2007–08 Schools and Staffing Survey (SASS). Notes and cautions were provided on the following:

- data anomalies in survey or created variables;
- the effect of missing data across files;
- deletion of items rating teachers by teaching ability level on the principal data files;
- locale codes used on the 2007–08 SASS; and
- district control numbers and the handling of public charter school cases.

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Appendix A. Key Terms for TFS

The following terms are defined as they apply to the 2008–09 Teacher Follow-up Survey (TFS) and, if applicable, to the 2007–08 Schools and Staffing Survey (SASS).

Affiliation stratum. SASS uses 11 categories into which all private schools are divided based on religious orientation and association membership. These categories are Catholic—parochial, Catholic—diocesan, Catholic—private, Baptist, Jewish, Lutheran, Seventh-day Adventist, other religious, nonsectarian—regular, nonsectarian—special emphasis, and nonsectarian—special education. Schools with multiple affiliations are classified by their first affiliation in the above list. These categories represent the private school sampling strata for SASS; therefore, the SASS private school sample is designed to support estimates for each of these affiliation categories.

Base weight. This is the inverse of the probability of selecting a teacher for TFS. This weight is the product of the SASS teacher base weight and TFS subsampling adjustment factor. The TFS subsampling adjustment factor is an adjustment that accounts for the subsampling of teachers from SASS sampled teachers. Thus, this base weight reflects the TFS probability of selection from all three stages of selection (i.e., SASS school sampling, SASS teacher sampling within school, and TFS sampling from SASS teachers).

Career Technical Center (CTC). An alternative school that offers organized educational activities with a sequence of courses that provides students with the academic and technical knowledge and skills they need to prepare for further education and for careers (other than careers requiring a baccalaureate, master's, or doctoral degree) in current or emerging employment sectors. The courses include competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills of the students.

Combined school. A school is classified as combined if it has one or more of grades K–6 and one or more of grades 9–12; for example, schools with grades K–12, 6–12, 6–9, or 1–12 were classified as having combined grades. Schools in which all students are ungraded (i.e., not classified by standard grade levels) are also classified as combined.

Common Core of Data (CCD). CCD is the Department of Education's primary database on public elementary and secondary education in the United States. CCD is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts and contains data that are designed to be comparable across all states. The objectives of CCD are twofold: first, to provide an official listing of public elementary and secondary schools and school districts in the nation, which can be used to select samples for other National Center for Education Statistics surveys; and second, to provide basic information and descriptive statistics on public elementary and secondary schools and schooling in general.

Current teachers. This refers to teachers who continued to teach any of grades pre-K–12 during the 2008–09 school year. Current teachers include those who remained at the same school as in 2007–08 or moved to a different school. See also the definitions for "movers" and "stayers."

District. A Local Education Agency (LEA), or public school district, is defined as a government agency that employs elementary- or secondary-level teachers and is administratively responsible for providing public elementary and/or secondary instruction and educational support services. Districts that do not operate schools but do employ teachers are included; for example, some states have special education

cooperatives that employ special education teachers who teach in schools in more than one school district. Supervisory unions are also included.

Elementary school. A school is classified as elementary if it has one or more of grades K–6 and does not have any grades higher than grade 8. For example, schools with grades K–6, 1–3, or 6–8 are classified as elementary. Schools with only kindergarten or prekindergarten were not included in SASS.

Final weight. This is the product of the TFS base weight (described under "base weight"), the TFS-to-SASS weighting adjustment factor (described under "weighting adjustment factor"), the TFS noninterview adjustment factor, and the TFS ratio adjustment. The final weight is used to produce weighted estimates from the survey data. See chapter 7 for details of the weighting procedure. See also the definitions for "base weight" and "weighting adjustment factor."

FIPS. FIPS stands for Federal Information Processing Standards and refers to a variety of codes for standardized reference. FIPS county and state codes were developed by the National Institute of Standards and Technology (NIST) as numeric identifiers for each county and state in the United States. They are currently issued by the American National Standards Institute (ANSI). FIPS 5-2 that identifies state codes has been reissued as INCITS 38. FIPS 6-4 that identifies counties has been reissued as INCITS 31. More information on the state and county codes can be found at: http://www.census.gov/geo/www/ansi/ansi.html.

Full-time equivalent. This is a method of counting teachers based on the percentage of time each teacher works as a proportion of the number of hours worked by a full-time teacher. For example, a full-time teacher would be counted as 1.0, a teacher working half time would be counted as .5, and a teacher working in a quarter-time position would be counted as .25, resulting in a total teacher count of 1.75.

Former teachers. This refers to teachers who left the teaching profession or teachers who were no longer teaching in any of grades pre-K–12 after the 2007–08 school year (includes teachers whose status changed to short-term substitute, student teacher, or teacher aide). See also the definition for "leavers."

Itinerant teacher. This type of teacher has an assignment that requires the teacher to provide instruction at more than one school.

Leavers. Teachers who left the teaching profession or teachers who were no longer teaching in any of grades pre-K–12 after the 2007–08 school year (includes teachers whose status changed to short-term substitute, student teacher, or teacher aide).

Missing data. TFS is a fully imputed dataset. Consequently, the only survey items that lack responses are either those that are part of a skip pattern and should not have been answered by a particular respondent or write-in responses, which include data too specific to reasonably impute from another respondent's data. Data pulled from the frame (i.e., the Common Core of Data or the Private School Universe Survey) are not necessarily imputed for missing data. In these instances, a value of -9 (indicating missing data) is provided for that variable.

Movers. Includes teachers who were still teaching any of grades pre-K–12 in 2008–09, but had moved to a different school after the 2007–08 school year.

Private school. A private school is defined as a school that does not receive public funding as primary support, does not operate within the public school system, and provides instruction for any of grades 1–12 (or comparable ungraded levels). The instruction must be given in a building that is not used primarily as a private home.

Private School Universe Survey (PSS). PSS is a biennial survey designed to collect data from all K–12 private schools in the 50 states and the District of Columbia. It is the universe from which the sample for the private school component of SASS is selected.

Public charter school. A public charter school is a public school that, in accordance with an enabling state statute, has been granted a charter exempting it from selected state or local rules and regulations, receives public funding as its primary support, and provides free public elementary and/or secondary school to eligible students. A public charter school may be a newly created school or it may previously have been a public or private school. See also the definition for "public school."

Public school (See "School"). A public school is defined as an institution that provides educational services for at least one of grades 1–12 (or comparable ungraded levels), has one or more teachers to give instruction, is located in one or more buildings, receives public funds as primary support, and is operated by an education agency. Public charter schools, schools in juvenile detention centers, and schools located on domestic military bases and operated by the Department of Defense are included. See also the definitions for "public charter school" and "traditional public school."

School. This is defined as an institution or part of an institution that has one or more teachers who provide instruction to students, has students in one or more of grades 1–12 (or the ungraded equivalent), has its own principal/administrator if it shares a building with another school or institution, was in operation during the 2007–08 school year, and is NOT primarily a postsecondary or adult basic education institution. The following are NOT considered a school: schools located exclusively in a private home, Department of Defense (DoD) schools located outside of the United States, offices of special education in an local education agency, tutoring services, homeschool clearing houses, and adult learning facilities.

Secondary school. A school is classified as secondary if it has any of grades 7–12 and none of K–6; for example, schools with grades 9–12, 7–9, 10–12, or 7–8 are classified as secondary.

Stayers. Includes teachers who were still teaching any of grades pre-K–12 and who remained in the same school in 2008–09 as in the 2007–08 school year.

Teacher. A teacher is defined as a full-time or part-time teacher who teaches any regularly scheduled classes in any of grades pre-K–12. This includes administrators, librarians, and other professional or support staff that teaches regularly scheduled classes on a part-time basis. Itinerant teachers are included, as well as long-term substitutes who are filling the role of a regular teacher on a long-term basis. An itinerant teacher is defined as a teacher whose assignment requires teaching at more than one school (e.g., a music teacher who teaches 3 days per week at one school and 2 days per week at another). Itinerant teachers who teach full-time in any district but teach part time in a particular school are considered part-time teachers at that particular school. A regular full-time teacher is any teacher whose primary position in a school is not an itinerant teacher, a long-term substitute, a short-term substitute, a student teacher, a teacher aide, an administrator, a library media specialist or librarian, another type of professional staff (e.g., counselor, curriculum coordinator, social worker) or support staff (e.g., secretary), or a part-time teacher. Short-term substitute teachers, student teachers, and teacher aides do not meet the definition of a teacher in SASS and are considered former teachers in TFS.

Teacher status. This is the respondents' status as a stayer, mover, or leaver in the 2008–09 school year. See also the definitions for "stayer," "mover," and "leaver."

Traditional public school. Traditional public schools are the subset of all public schools that are not public charter schools. They include regular, special education, vocational/technical, and alternative schools. They also include schools in juvenile detention centers, and schools located on domestic military

bases and operated by the Department of Defense. See also the definitions for "public school" and "public charter school."

Valid skip. An item that was not applicable due to a response to a previous item on the same questionnaire and was provided with a value of -8, indicating a valid skip. Certain survey items direct respondents to skip subsequent items based on their answers to the original item, or stem. For instance, if a respondent answered "Yes" to item 3a on the paper version of the Questionnaire for Current Teachers ("Are you currently teaching in the same school as you were last year (2007–08)?"), he or she was directed to skip items 3b through 10 (these items collect data about the new school) and to "GO TO item 11 on page 10." Because the respondent answered that he or she is teaching at the same school as in the previous year, subsequent questions about the school and reasons for moving to a different school were not applicable. In instances when an item should not have been answered by the respondent, a value of -8, which designates a valid skip, is applied to that variable(s).

Weighting adjustment factor. The TFS-to-SASS weighting adjustment factor is used to adjust for the fact that the SASS teacher final weights based on preliminary data were used in selecting the TFS sample, whereas the SASS final teacher weights are more reflective of the teacher population.[1] The weighting adjustment factor adjusts for any changes to the weighting procedure that occurred between the initial and final weighting procedures for SASS teachers. For more information about the SASS teacher weighting procedure, see the *Documentation for the 2007–08 Schools and Staffing Survey* (NCES 2010-332).

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[1] SASS teacher weighting was not completed in time to use final teacher weights in the TFS sample selection, necessitating the use of the SASS teacher final weights based on preliminary data in the TFS sampling.

Appendix B. Questionnaire Availability

Online, Downloadable PDF Files

Questionnaires for every data collection component in every survey cycle since the first 1987–88 Schools and Staffing Survey (SASS) and the first 1988–89 Teacher Follow-up Survey (TFS) are available online as downloadable PDF files at

   http://nces.ed.gov/surveys/sass/questionnaire.asp

Select the survey year of interest and then proceed to select the specific questionnaire to browse or download. The Teacher Status Form is the form that gathers the current status of teachers who were eligible for sample during the 2007–08 SASS. The current status of teachers is classified into 3 categories: teachers still teaching at that school, teachers teaching in another school, and teachers who had left teaching. While no data for this form are reported publicly, the questionnaire form is available for some administrations on the SASS website for those interested in survey methodology. The Teacher Status Form for the 2008–09 TFS is included in appendix E.

In general, as the 4-year survey cycle advances toward the next data collection, the questionnaires will be posted online as they are finalized. The next survey cycle is planned for the 2012–13 school year.

All of the SASS and TFS questionnaires are in the public domain. All survey items may be copied by anyone who wishes to use them in another survey, without any restrictions.

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Appendix C. First Cognitive Testing of TFS Items: Summary of Findings and Recommendations

This appendix contains a report prepared by Michael Long of Macro International, Inc., and delivered to the National Center for Education Statistics on November 5, 2007. The contents are listed below.

Background

In the summer of 2007, the Census Bureau contracted with Macro International, a research and evaluation company in Calverton, MD, to plan and carry out a series of cognitive interviews with current and former teachers. The purpose of these interviews was to gather feedback on a number of proposed questions for the Teacher Follow-Up Survey (TFS), which is a national survey administered by the National Center for Education Statistics (NCES) and the Census Bureau.

This report is a summary of the methodology that Macro International used in these interviews, as well as the feedback that they received from interview participants. The report also provides Macro's recommendations for revisions to the proposed TFS questions.

Summary of Methodology

Description of Participants

Macro conducted interviews with 25 current and former teachers in the categories shown in table C-1 below. In addition to those shown in table C-1, Macro also conducted one additional interview with a current teacher who did not fit into any of these categories.

Table C-1.   Description of interview participants

Group	Participants in each category
Group A: Former teachers who left the field in the past 2 years	9
Group B: Current teachers who switched schools in the past 2 years	9
Group C: Current teachers who previously retired from teaching and have since returned to the classroom	6

Teachers were recruited through an e-mail invitation sent to a list of teachers from across the country. The participants represented all three school levels (elementary, junior high/middle, and high school). Macro also purposefully recruited teachers from a range of states because some of the proposed survey items deal with retirement and health insurance, two topics that vary dramatically across the country. Each interview participant was provided with an honorarium of $75.

Interview Protocol

Each interview was approximately 60 minutes long and was conducted by phone. Prior to each interview, the participant was e-mailed a copy of the proposed items and told to print them out but not read them carefully. During the interview, participants were asked to answer the proposed TFS questions as they normally would if they were answering a survey. As they answered each item they were asked to "think aloud"—that is, to describe aloud what they were thinking as they read and answered the question. After the respondent had answered each item, the interviewer would then ask appropriate follow-up questions or probes.

A copy of the original protocol is included with this report as Attachment C-1. This version of the protocol contains interview questions for all TFS questions that we were studying. However, not all items were shown to every participant. Each participant was only shown items that they would normally have been asked to answer—for example, Question 1 ("Do you currently plan to return to the position of a K–12 teacher?") was only asked of former teachers, not those that were currently teaching.

Summary of Participant Feedback and Recommendations

The following section of this report summarizes the results from our research. For each item we provide the wording of the question being tested, a list of relevant findings, and then our recommendations for how that item could be improved.

Question 1 (Plans to Return to Teaching)

#1) a. Do you currently plan to return to the position of a K–12 teacher?
    __ **Yes**
    __ **No → Go to item 2.**

b. When do you plan to return to the position of a K–12 teacher?
Mark (X) only one box.

    __ Later this school year (2008–09)
    __ Next school year (2009–10)
    __ After the 2009–10 school year but before the 2013–14 school year
    __ During the 2013–14 school year or later
    __ Timing unknown

Findings

- Of the nine people who saw this question, six indicated that they did not have specific plans to return to teaching but had not ruled it out. The ways that they chose to answer this question were inconsistent—three responded "No," two said "Yes," and one left it blank.
- One participant answered "No" to Question 1a but indicated that they might return to teaching part-time.
- Three participants commented that Question 1b would be easier to answer if the options referred to ranges of years (e.g., 3 to 5 years) rather than specific school years.

Recommendations

- Rephrase Question 1a as "At this time, do you have specific plans to return to the position of a K–12 teacher in the future?" or "At this time, would you say that it is very likely you will return to the position of a K–12 teacher in the future?"
- Locate this question immediately after the item on the TFS that asks whether respondents would consider ever returning to teaching (currently item 23). Putting these questions in close proximity will make the distinction between them clearer. A skip pattern could also be used—respondents who answer "No" to the question about whether they would ever consider returning to teaching could be skipped out of the question asking about "specific plans."
- Rephrase the options for Question 1b as:
  o Later this school year (2008–09)
  o Next school year (2009–10)
  o In 2 to 5 years
  o In more than 5 years
  o Timing unknown
- Depending on the intent of the question, it may be necessary to clarify that only full-time teaching is to be considered.

Question 2 (Whether Respondent is "Retired")

#2)   Do you consider yourself to be retired from the position of a K–12 teacher?
       __ **Yes**
       __ **No**

Findings

- Of three participants who had technically retired from teaching and had not returned to the classroom, all answered "No" to this question.
- Of six participants who had technically retired from teaching and had since returned to the classroom, four answered "Yes" and two said "No." The two people that answered "No" indicated that they did not consider themselves to be retired because they were still teaching.
- Of six participants who had left teaching for reasons other than retirement, four responded "No" to this question because they associated "retirement" with such factors as "being older," "reaching a certain age," or "receiving a pension." However, two of the six responded "Yes." One of these two based her answer on the fact that she looked up the word "retire" in a dictionary and found that it was simply defined as "leaving a position."

Recommendation

- Because response data from this item will not have any clear, interpretable meaning, NCES should remove it from the survey.

Question "x" (Social Security Payments)

#x)   Are you currently receiving any Social Security payments?
   *Report annual amounts in whole dollars.
   *Record amount, then GO TO item 3 below.

   **__Yes → If "Yes," How much? $ |__|__|__| , |__|__|__|.00 per year
   __ No**

Findings

- Only four participants were shown this question; all answered "No."
- None of the participants who saw this question expressed any confusion or identified any other issues.

Recommendation

- This question should ask for a monthly amount rather than an annual amount, since most respondents will probably be able to recall or find the monthly amount more easily and accurately.

Question 3a (Receipt of Pension or 401(k)/403(b))

#3) a. Are you currently collecting a pension from a teacher retirement system or drawing money from a school/system sponsored 401(k) or 403(b) or similar type of retirement savings plan which includes funds you contributed as a teacher?

(401(k) and 403(b) plans are retirement plans in which employees authorize their employers to deduct money from their paycheck before taxes are calculated and invest it in various investment and savings options that become available to employees without penalty upon retirement and/or at a specified age.)

__Yes
__ No → **Go to item 4.**

Findings

- Two current teachers mistakenly answered "Yes" to this question because they thought they were being asked whether they are currently contributing to a pension.
- All other participants answered the question without difficulty; none expressed any confusion or identified any other issues.
- When specifically asked to read the information in italics, all participants felt that this description was clear and matched their previous understanding of 401(k) and 403(b) plans. Most originally answered the question without reading this information.
- All participants who had officially "retired" previously responded "Yes" to this question.

Recommendations

- Change the wording of the item from "collecting a pension" to "receiving a pension." This will decrease the possibility of someone confusing this phrase with "contributing to a pension."
- Because several participants indicated that their 403(b) was sponsored by their state or teachers union (see Question 3c below), change the wording of the question from "… a school/system sponsored 401(k) or 403(b)…" to "… a sponsored 401(k) or 403(b)…"
- The question appears to work well as a screener to filter respondents to other questions about retirement, since almost all participants' responses correlated with whether or not they had officially "retired." If there are instances in which retired teachers do not receive funds through a pension or savings plan (e.g., because they deferred them somehow) they did not appear in this research.

Question 3b (Amount of Pension or 401(k)/403(b))

#3) b. How much do you receive BEFORE TAXES from this teacher retirement system pension or 401(k)/403(b) or similar type of plan that was funded while you were a teacher?

b.1. Pension $ |__|__|__| , |__|__|__|.00 per year → Year began drawing pension |__|__|__|__|

  [   ] None, I do not receive a pension

b.2. 401(k)/403(b) $ |__|__|__| , |__|__|__|.00 per year → Year began drawing money |__|__|__|__|

  [   ] None, I do not draw money from a 401(k)/403(b) at this time

Findings

- Of nine participants who had officially retired, six were able to answer this question easily, giving exact numbers for their annual pension. Two others provided estimates that they said were fairly close (i.e., within one or two thousand dollars). One of the two said that she might have looked the correct answer up if she were completing the survey on her own. All said that their answers were annual before-tax amounts, as the question instructed.
- One participant indicated that she would not answer this question for reasons of privacy.
- All respondents who answered this question were receiving a pension; none was receiving a 401(k) or 403(b).
- No respondents appeared to have any difficulty providing the year when they began drawing their pension.

Recommendation

- No changes are necessary; this question appears to work well. However, our findings showed that there may be some small percentage of participants that do not want to provide this information.

Question 3c (Source of Pension or 401(k)/403(b))

#3) c. From where is the teacher retirement system pension or school/system sponsored 401(k)/403(b) being drawn?

___ The district or school system in which I taught last year (2006–07 school year)
___ A district or school system other than the one in which I taught during the 2006–07 school year
___ Other, please specify _____

Findings

- Several participants noted that their pension comes from a state plan; they provided this response in the "Other" category.
- In some cases there appeared to be confusion on this question; at least two participants initially checked that their pension is being drawn from their district, but later commented that the check comes "from the state." This potential misunderstanding was mentioned by other retired teachers, who noted that teachers in their districts do not always understand where the money is actually coming from.
- One participant indicated that while teacher pensions for her district are funded by the state, 403(b) plans are sponsored by a "supervisory union" instead. No other participants commented that their pension and 403(b) plans are sponsored by two different organizations.
- One current teacher said that she assumed that 403(b) funds would come from "the investment company."
- Several current teachers commented that they would not know the answer to this question. These were all teachers who were not close to retirement, however, so they would not be answering this question.

Recommendations

- Add the word "state" into the answer options (i.e., "The state, district or school system in which I taught last year" and "The state, district or school system other than the one in which I taught…").
- For simplicity, change the ending of the second answer option from "…other than the one in which I taught in during the 2006–07 school year" to "…other than the one in which I taught last year."
- Only one person in our research indicated that their pension and 403(b) would come from two different organizations. However, before using this question NCES should check to make sure this is not a common practice now that 403(b)s are becoming more prevalent for teachers.

Question 4 (Pension from Non-Teaching Source)

#4) a. Are you currently collecting a pension from a ANOTHER retirement system or drawing money from a sponsored 401(k) or 403(b) plan which includes funds you contributed from a position OTHER than a K–12 teacher?

__ Yes
__ No

Findings

- As in Question 3a, one person incorrectly responded "Yes" because they confused the phrase "collecting a pension" with "contributing to a pension."
- One participant incorrectly thought that this item was referring to pensions or 401(k)/403(b)s that came from previous teaching in a different state or district.
- One former teacher responded "Yes" to this question, but upon further questioning it became clear that they were actually withdrawing money from a post-tax investment account that they had set up while working in a previous position—not a 401(k) or 403(b).
- One person noticed the word "includes" and wondered whether a person should answer "Yes" if they have a retirement account that includes both money from teaching and from a previous position.

Recommendations

- As in Question 3a, change "Are you currently collecting a pension…" to "Are you currently receiving a pension…"
- Add a note indicating that the question is only referring to pensions and pre-tax retirement plans such as 401(k) and 403(b) accounts, not other types of savings or investment accounts.
- According to the current directions of the questions, respondents who are collecting from a 403(b) that includes funds from both a previous position and K–12 teaching should answer "Yes" to both Question 3a and Question 4a (and provide the amounts in both Question 3b and Question 4b). While this is probably an unlikely scenario, NCES should consider whether they want to clarify this.

Question 5 (Health Insurance Plans)

#5) a. Does your previous employment as a teacher qualify you for coverage by a state, district, or school-sponsored health insurance plan?
(The sponsor of health insurance plans is different in different districts)
___ Yes
___ No → **Go to item 6.**

b. Who is sponsoring your health insurance plan?
___ A state in which you taught
___ A school district in which you taught
___ A school in which you taught
___ Other: _____

Findings

- When answering Question 5b, one person said that their county sponsors their plan. Another that works in New York City said that their plan is sponsored by the city itself. Two said that their teachers' union sponsors their insurance. In all cases, these respondents wrote their answer under the "Other" response option.
- Two participants questioned whether Question 5a was asking whether the previous employment qualified you for coverage, or whether it provided you with paid coverage. For example, one pointed out that after leaving a teaching position a person would be "qualified" for COBRA coverage at a discounted rate for a limited time.
- One person commented that the additional text below the question ("The sponsor of health…") was not helpful.

Recommendations

- Move the words "health insurance" to before the word "coverage," so that the topic of the question is apparent earlier (i.e., "Does your previous employment as a teacher qualify you for health insurance coverage…").
- Change the wording from "coverage by a state, district, or school-sponsored plan" to "coverage through a state, district, or school-sponsored plan."
- Remove the additional text from the question ("The sponsor of health insurance plans…") because it was distracting for at least one respondent and did not seem to be helpful.
- At a debriefing meeting NCES indicated that this item was meant to refer to situations in which a respondent's health insurance was at least partially paid by their former employer. Given this intent the item should be rephrased as:

  Based on your previous employment as a teacher, are you currently qualified to receive health insurance coverage that is at least partially paid for by a state, district, union or other educational entity?

  However, it is not necessarily clear that people whose coverage is discounted (as opposed to "partially paid") due to their previous employment as a teacher would answer "No" to this question.

Question 6 (Early Retirement Incentive)

#6) a. Did you receive an early retirement incentive to leave the position of a K–12 teacher at your previous school?
(An early retirement incentive is a monetary bonus or reward used to encourage teachers to retire.)
__ Yes
__ No → **Go to item 7.**

b. Would you have remained in teaching if you had not received an early retirement incentive?
__ Yes
__ No

Findings

- About half of the respondents commented that they have never heard of an early retirement incentive being offered to K–12 teachers. However, all understood what was meant by the phrase, and none had any difficulty answering the question.
- When asked to read the description provided in italics, all respondents said that it was clear and matched their own understanding of what was meant by an "early retirement incentive."
- None of the participants responded "Yes" to Question 5a; as a result, none answered Question 5b. When respondents were directed to read over this question, all found it very clear.

Recommendation

- This question appears to work well; no changes are necessary.

Questions 7/8 (Reasons for Leaving Teaching)

#7) **Indicate the level of importance EACH of the following played in your decision to leave the position of a K–12 teacher.**

(The following scale is used for the items below: 1) Not at all important, 2) Slightly important, 3) Somewhat important, 4) Very important, 5) Extremely important)

a. **This year's job is closer to my home.**
b. **I (or my partner) was pregnant or needed more time for childrearing.**
c. **My health or the health of a loved one required that I leave the profession.**
d. **I decided to retire.**
e. **I was laid off, involuntarily transferred, or my contract was not renewed.**
f. **My previous school was reorganized or closed.**
g. **I was dissatisfied with changes in my job description or responsibilities at my previous school.**
h. **I wanted better salary or benefits than what I received at my previous school.**
i. **I decided to pursue a position other than that of a K–12 teacher.**
j. **I decided to take courses to improve career opportunities WITHIN the field of education.**
k. **I decided to take courses to improve career opportunities OUTSIDE the field of education.**
l. **I was dissatisfied with teaching as a career.**
m.**I was dissatisfied with workplace conditions (e.g., facilities, classroom resources, school safety) at my previous school.**
n. **I was dissatisfied with the administrator(s) at my previous school (e.g., lack of: communicating respect, encouragement to change teaching methods, working with staff to meet curriculum standards, encouragement of professional collaboration).**
o. **I did not have enough autonomy over my classroom at my previous school.**
p. **I was dissatisfied with opportunities for professional development at my previous school.**
q. **I felt job security would be higher at this year's job.**
r. **I had an opportunity for a better work assignment at this year's job.**
s. **I was dissatisfied with how student assessments, school accountability, or teacher quality measures impacted my teaching at my previous school.**
t. **I was dissatisfied with the large number of students I taught in my previous school.**
u. **I was dissatisfied with having my compensation, benefits, or rewards tied to the performance of my students in my previous school.**
v. **I did not feel prepared to mainstream special needs (e.g., disabled) students in my regular classes at my previous school.**
w.**I felt that there were too many intrusions on my teaching time (i.e., time spent with students) at my previous school.**
x. **Student discipline problems were an issue at my previous school.**
y. **I decided to leave teaching for other family or personal reasons.**
z. **I was dissatisfied with my previous school for other reasons not included above.**

Findings for Question 7

- There appeared to be some participants who were answering based on whether they thought statements were true, rather than whether they impacted their decision to leave. For example, one person answered "3" to (j) and (k), because she is now able to take courses since she is not working. However, she later indicated that a desire to take courses was not a factor in her decision to leave. Another participant who retired answered "3" to (a) because she is currently working part-time from home. Again, she indicated that this was not a factor at all in her decision to leave teaching.[1]
- Item (b): One teacher gave this item a "1" because she misread the word "childrearing" as "childbearing."
- Item (d): Three participants specifically commented that (d) seemed out of place on this list, because retiring is something that you do—not a reason that you would leave a school. As one put it, "your decision to retire might be based on one of the other things on this list."
- Item (d): One person who left a school through retirement responded "1" to this item, because she had retired involuntarily due to health issues.
- Item (n): Several participants found the wording of (n) to be confusing and awkward.
- Item (t): One participant was unsure whether the "large number of students" mentioned in (t) was meant to refer to students in one class, or students in all classes combined.
- Items (y), (z): Two participants commented that the scale seemed strange for this item, since they were asked to identify how important this "other" reason was but not to identify the reason itself.
- Items (y), (z): One person had left teaching because she felt she did not have the time to devote to it. This participant felt that this reason did not fit within either (y) or (z), and that as a result a more general "other" option was needed.
- Some participants specifically commented that a large number of items "did not apply" to them; most responded "1" to these items, but two left them blank.

Recommendations (Note: Many of these also apply to Question 14)

- Add a note after the question that emphasizes the purpose of the question: "Please answer based on how important these factors were in your decision to leave, not the extent to which you agree with them."
- Add a note after the question that states: "If any of the following items do not apply to your situation, select '1' (Not at all important)."
- Rephrase item (a) as "I wanted to take a job that was closer to my home." This will emphasize that people should answer based on whether proximity was a factor in their decision to leave, rather than a coincidence.
- In item (b), replace the word "childrearing" with "child care."
- Rather than including (d) as an item in this question, include a separate question in the survey that asks whether or not the respondent officially retired in the last year. Then, make sure that question 7 includes the most likely reasons that a teacher might retire.
- Rephrase item (n) so that the parenthetical examples of why teachers might be dissatisfied with administrators are easier to understand.
- Rephrase item (z) as "I left the position of a K–12 teacher for other reasons not described above." This is more inclusive than the current wording, which assumes that respondents were dissatisfied with their school.

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[1] At a debriefing meeting NCES asked Macro to reanalyze these results looking only at respondents who gave an answer of 4 ("very important") or 5 ("extremely important'). Our analysis showed that focusing on responses of 4 and 5 significantly decreased—but did not eliminate—the instances in which teachers seemed to be falsely identifying reasons that they left teaching.

#8)   Of the items above, which do you consider the most important reason in your decision to leave the position of a K–12 teacher?
*Enter the letter from item 10 above.

|__| Most important reason in my decision

Finding

- Participants did not have trouble answering this question. In all cases, teachers' responses to this question seemed to match their previous comments about their reasons for leaving.

Recommendation

- This question works well as currently written; no changes are necessary.

Question 9 (Factors in Decision to Return to Teaching)

#9)   Indicate how important each factor would be in influencing your decision to return to the position of a K–12 teacher.

(The items below use the following scale: 1) Not at all important, 2) Slightly important, 3) Somewhat important, 4) Very important, 5) Extremely important)

a. Ability to maintain your teacher retirement benefits
b. State certification reciprocity (a state's acceptance of teacher certifications from other states)
c. Availability of part-time teaching assignments
d. Forgiveness of your student loans
e. Housing incentives (e.g., subsidies, rent assistance, low interest loans, relocation assistance)
f. An increase in salary
g. Availability of suitable childcare options
h. Ability to enroll own children in your school/system at no or reduced tuition
i. Better benefits package
j. Financial support for certification/recertification/continuing education requirements
k. Availability of teaching assignments in a particular grade or subject field
l. Effective disciplining of students by the principal or school head
m.A better school support network to help me develop or polish my teaching skills

Findings

- Item (a): Participants interpreted (a) in different ways. Most thought that it meant that your previous years of teaching would count toward retirement. One retired teacher thought it meant he would be able to continue receiving a pension after returning to teaching. One thought that "maintaining retirement benefits" simply meant that she would be able to continue to contribute to a retirement plan.
- Item (h): Two teachers who worked at public schools thought that the reference to "no or reduced tuition" was strange, but this did not affect their answers (both answered "1").
- Several participants provided suggestions for other items that could be included in this question; these included "smaller class sizes," "adequate school supplies and resources," "a position at a school closer to home," and "availability of suitable eldercare options."
- Several participants that had no intention of returning to teaching (e.g., those that were retired) were frustrated at having to answer the question, since they felt it did not apply to them.

Recommendations

- Delete the word "influencing" from the question, since it seems redundant.
- At a debriefing meeting, NCES indicated that item (a) referred to teachers' ability to continue receiving a pension/403(b) while also getting a salary from teaching (i.e., "double-dipping"). If this is the intent, the item should be moved to the end of the list and should include a modifier at the beginning of the item, as follows:

  n. [IF YOU HAVE RETIRED FROM TEACHING] Ability to continue to receive funds from a pension or 401(k)/403(b) while collecting a salary for teaching

However, some people who are not retired would still answer the question, so if this item is retained NCES should have a plan for how response data can be cleaned.

- Consider adding an item relating to class size, and perhaps other aspects of teaching that may have originally encouraged teachers to leave the profession.
- Currently, some items are worded in terms of improvement (e.g., "*better* school support network," "*better* benefits package") and others are not (e.g., "effective disciplining of students," "financial support"). None of the participants commented on this difference, but NCES should review the items to determine whether this inconsistency was intentional.

Question 10 (Salary Required to Return to Teaching)

#10) What is the LOWEST teaching salary, not including benefits, you would accept to return to the position of a K–12 teacher?

*_Report in whole dollars._

$ |__|__|__| , |__|__|__|.00

Findings

- In several cases, it was clear that people actually would not return to teaching for the salary they indicated. For example, one person who had retired for health reasons provided an answer of $65K, but said that it would actually be impossible for her to return for any amount. Another gave an answer of $80K, but later said that she would not return even if offered this salary.
- One person provided a dollar figure even though she had no intention of returning to teaching for at least 10 years.
- Five of the seven responses to this question ranged from $40K to $60K. One participant answered $65K, and another provided a response of $80K.

Recommendations

- Currently, responses to this question should be interpreted cautiously. Participants in this research appeared to be providing salary "floors" below which they would not consider returning to teaching. However, because of other factors (such as their current situation, or other aspects of teaching with which they were dissatisfied) it is not necessarily the case that they would actually return for this amount.
- Add another question before Question 10: "Would you return to the position of a K–12 teacher if you were offered a higher salary than you received last year?" Only respondents who answer "Yes" to this question would then be asked for a specific dollar figure. Forcing respondents to indicate that they would return for a higher salary will make them more realistic in their answers to Question 10.
- Depending on the intent of the question, the words "next year" could be added to Question 10 (and to the lead-in question suggested above). Again, adding a specific time frame would make the question more concrete and would lead to more realistic answers.

Question 11 (Return to Teaching for One-Time Bonus)

#11) a. Assuming the same salary schedule you were under last year, would you return to the position of a K–12 teacher if you received a one-time bonus?
__ **Yes**
__ **No → Go to item 12.**

b. What is the lowest amount that you would accept as a one-time bonus to return to the position of a K–12 teacher?
*Report in whole dollars.

$ |__|__|__| , |__|__|__|.00

Findings

- Two participants questioned the time frame of the question; both said that they might accept a bonus to return in the future, but not at the current time. One of these two responded "Yes" to this question; the other answered "No."
- One teacher who had been forced to retire for health reasons provided an answer of $10K, but later indicated that if she were able, she would return to teaching for no bonus.
- Two participants noted that their answer to this question would depend on how long they were required to teach after receiving the bonus.
- Most of the responses to this question ranged from $5K to $10K, but one provided a response of $100K.

Recommendations

- Depending on the intent of the question, add the words "next year" to the question (i.e., "…would you return to the position of a K–12 teacher next year if you received a one-time bonus"). As in Question 10 above, making the question more concrete in this way would likely make responses more realistic.
- Depending on the intent of the question, NCES may want to specify that the question is referring to full time teaching.
- NCES should be aware that some participants will be basing their answer on how long they have to stay in order to receive the bonus (just as they would be if offered a bonus in real life). This could be defined in the question, but doing so might make the question longer and more difficult to understand.

Question 12 (Return to Previous School for One-Time Bonus)

#12) a. Would you return as a K–12 classroom teacher in the same school where you previously taught if you received a one-time bonus?
*In instances where returning to your previous school is impossible, please mark "No, not feasible to return to the same school"—for example, if you relocated a great distance from your previous school or if this school closed.

___ **Yes**
___ **No, not feasible to return to the same school → Go to item 13.**
___ **No, would not return to that school for a bonus → Go to item 13.**

b. What is the lowest amount that you would accept as a bonus to return to teaching at that school?
*Report in whole dollars.

$ |__|__|__| , |__|__|__|.00

Findings

- All three participants whose schools had closed or whose programs had been cut selected "No, not feasible."
- Four people who answered this question had moved to a different state since teaching at their last school. Their interpretation of the answer choices was inconsistent; two indicated that they would not return because it was "not feasible," while the other two simply said that they "would not return."
- Two participants had been involuntarily transferred from their previous school. One indicated that it was "not feasible" to return; the other said that he would return for a bonus of $0K.
- One person said that none of the options applied for them, because their school had closed but they would not have chosen to return to it even if it had remained open. This person left the question blank.
- One person selected "No, would not return" because she assumed that the question was asking about the present time, and she will not return for at least 10 years. Notably, this same participant answered "Yes" to Question 11, so her interpretation of these questions was not consistent.

Recommendations

- While respondents' decisions whether to answer "Yes" or "No" seem clear, the distinction between "No, not feasible" and "No, would not return" is less clear. Currently, differences in interpretation among respondents will make these answers very difficult to analyze meaningfully. It seems unlikely that the distinction between "unfeasible" and "not desirable" could be sufficiently explained to lead to consistent response data.
- If this question is used, change the wording of the question from "in the same school" to "to the same school." Also, depending on the intent of the question it may be appropriate to add the words "next year" (as in questions 10 and 11).

Question 13 (Highly Qualified Teaching Status)

#13) a. This school year, are you a Highly Qualified Teacher (HQT) according to your state's requirements?
(Generally, to be Highly Qualified, teachers must meet requirements related to 1) a bachelor's degree, 2) full state certification, and 3) demonstrated competency in the subject area(s) taught. The HQT requirement is a provision under No Child Left Behind (NCLB).)

__ Yes → **Go to item 14.**
__ No

b. Do you meet your state's requirements for a Highly Qualified Teacher in at least one subject that you teach?

__ Yes
__ No

Findings

- All participants seemed very familiar with the concept of a Highly Qualified Teacher.
- When asked to read the description in italics, most participants said that it was clear. Two participants commented that the description in italics didn't seem to match their state requirements, but this discrepancy did not affect their ability to answer the question. Very few of the participants, if any, read this description when answering the question on their own.
- One person taught two grades and indicated that they were only Highly Qualified in one of the two. They answered "Yes" to Question 13a because they taught more classes of the grade in which they are Highly Qualified. However, they indicated that even if the breakdown of their classes was even they would still respond "Yes."
- One person commented that teachers might be unwilling to indicate that they are not Highly Qualified, "for fear of repercussions" from their district. However, other participants did not agree that teaches would feel this way.

Recommendations

- Rephrase Question 6a as "This school year, do you meet your state's requirements for a Highly Qualified Teacher (HQT) in ALL grades and/or subjects that you teach?"
- Reword Question 6b as "…in at least one subject or grade that you teach?"

Questions 14/15 (Reasons for Leaving Previous School)

#14) Indicate the level of importance EACH of the following played in your decision to leave your previous school.

(The following scale is used for the items below: 1) Not at all important, 2) Slightly important, 3) Somewhat important, 4) Very important, 5) Extremely important)

a. This year's school is closer to my home.
b. My health or the health of a loved one required that I change schools.
c. I was laid off, involuntarily transferred, or my contract was not renewed.
d. My previous school was reorganized or closed.
e. I was dissatisfied with changes in my job description or responsibilities at my previous school.
f. I wanted better salary or benefits than what I received at my previous school.
g. I was dissatisfied with workplace conditions (e.g., facilities, classroom resources, school safety) at my previous school.
h. I was dissatisfied with administrator(s) at my previous school (e.g., lack of communicating respect, encouragement to change teaching methods, working with staff to meet curriculum standards, encouragement of professional collaboration).
i. I did not have enough autonomy over my classroom at my previous school.
j. I was dissatisfied with opportunities for professional development at my previous school.
k. I decided to leave my previous school for other personal or family reasons.
l. I was dissatisfied with my previous school for other reasons not included above.
m. I felt job security would be higher at this year's school.
n. I had an opportunity for a better teaching assignment (subject area or grade level) at this year's school.
o. I was dissatisfied with how student assessments, school accountability, or teacher quality measures impacted my teaching at my previous school.
p. I was dissatisfied with the large number of students I taught in my previous school.
q. I was dissatisfied with having my compensation, benefits, or rewards tied to the performance of my students in my previous school.
r. I did not feel prepared to mainstream special needs (e.g., disabled) students in my regular classes at my previous school.
s. I felt that there were too many intrusions on my teaching time (i.e., time spent with students) at my previous school.
t. Student discipline problems were an issue at my previous school.

Findings

- Two people said that for items like (c) and (d) it seemed strange to use a five-point scale because Yes/No response options seemed more appropriate. Others commented that most of the reasons provided in this list did not apply to them at all. One became so frustrated that the question did not apply to her that she indicated that she would stop the survey at this point rather than complete the question.
- As in Question 7, there appeared to be some participants who were answering based on whether they thought statements were true, rather than whether they impacted their decision to leave. For example, one person who switched schools because her husband was transferred to a different

state gave a 3 to (t) even though she said that student discipline had no impact on her decision. Several other respondents gave non-1 answers to (a), (o), (p), (r), (s), and (t) that seemed unrelated to their decisions to leave.[2]

- One participant whose school was closed noted that the reasons that she "decided to leave her previous school" were different than the factors that she considered when choosing her new school. Her responses reflected a mix of the two sets of reasons; for example, she gave a 5 to (d), but a 3 to (a).
- Item (h): Several participants found the wording of (h) confusing and awkward.

Recommendations (Note: Many of these also apply to Question 7)

- Add a note after the question that emphasizes the purpose of the question: "Please answer based on how important these factors were in your decision to leave, not the extent to which you agree with them."
- Add a note after the question that reads "If any of the following items do not apply to your situation, select 1 (Not at all important)." This may alleviate people's concern that a five-point scale is not appropriate for this question.
- Rephrase item (a) as "I wanted to work at a school that was closer to my home." This will emphasize that people should answer based on whether proximity was a factor in their decision to leave, rather than a coincidence.
- Rephrase (h) so that the parenthetical examples of why teachers might be dissatisfied with administrators are easier to understand.
- Move items (k) and (l) to the end of the list.

#15)   From the items above, which do you consider the most important reason in your decision to leave my previous school?
*Enter the letter from item 14 above.

|__| Most important reason in my decision to leave

Finding

- Participants did not have trouble answering this question. In all cases, teachers' responses to this question seemed to match their previous comments about their reasons for leaving.

Recommendation

- This question works well as currently written; no changes are necessary.

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[2] As for question 7, NCES asked Macro to re-analyze these results focusing solely on responses of 4 ("very important") and 5 ("extremely important"). Again, doing so significantly decreased—but did not eliminate—the instances in which respondents seemed to falsely identify reasons that they switched schools.

Question 16 (Effectiveness of School Head or Principal at Previous School)

#16) Indicate how effectively your principal or school head performed each of the following at LAST YEAR'S SCHOOL.
If you are teaching in the same school as you were last year, then report on how effective your principal or school head was last year.

(The following scale is used for the items below: 1) Not at all effectively, 2) Slightly effectively, 3) Somewhat effectively, 4) Very effectively, 5) Extremely effectively)

a. Communicated respect for and value of teachers
b. Encouraged teachers to change teaching methods to improve student performance/achievement
c. Encouraged professional collaboration among teachers
d. Worked with teaching staff to solve school or department problems
e. Encouraged the use of student assessment results in planning curriculum and instruction
f. Worked to develop broad agreement among the teaching staff about the school's mission
g. Knew what kind of school he or she wanted and communicated it to the staff
h. Counseled-out or dismissed teachers who were not performing at a satisfactory level

Findings

- Participants had no difficulty understanding or answering (a) through (g).
- Item (h): About a third of the participants who saw this question expressed some difficulty in answering (h). Most indicated said that they didn't know how the principal handled these kinds of personnel issues; one, for example, noted that the principal could be trying very hard to remove teachers but being prevented from doing so by the school board. Another said that how these personnel issues were handled was "none of her business." Of those who had difficulty with (h), most did provide an answer; two left the question blank.
- Item (h): At least six of the 19 teachers who were shown this question were not sure what the phrase "counseled-out" meant. When asked what they thought it meant, three were able to describe it fairly accurately while three thought it specifically related to counseling. In any case, participants' lack of familiarity with this term did not seem to impact their responses to this question.

Recommendations

- Items (a) through (g) work well as written.
- Item (h) is also clear as written. However, NCES should note that a large number of teachers indicated that they are not necessarily aware of all of the factors that go into counseling-out or dismissing teachers, and thus are not perfect evaluators of their principals.

Question 17 (State Assessment Programs)

#17) To what extent do you agree or disagree with each of the following statements about the state assessment program used for measuring Adequate Yearly Progress at LAST YEAR'S SCHOOL?

(The following scale is used for the items below: 1) Strongly agree, 2) Somewhat agree, 3) Somewhat disagree, 4) Strongly disagree)

a. I did not receive adequate support to prepare my students for the assessments.
b. I believe that my students were capable of performing well on the assessments.
c. The assessment program influenced the curriculum I taught.
d. My students' knowledge and abilities were reflected accurately through their performance on assessments.
e. My students' results allowed me to target appropriate professional development for myself.
f. My students' results allowed me to identify their specific needs.
g. Overall, I was satisfied with the assessment program.

Findings

- Participants in early interviews were asked a version of this question that asked more generally about "the school, state, or district assessment program" at their school. Several commented that their students participate in more than one assessment program. Participants who saw the revised version of the question (which refers to "the state assessment program used for measuring AYP") was much clearer.
- Several teachers commented that some or all of the questions did not apply to them, either because they teach an early grade that is not included in the state assessment program or because they teach a subject (e.g., art or music) that is not assessed. About half of these participants skipped one or more of the questions—most often (d) and (f).
- Item (a): Three teachers questioned why this item was phrased negatively, while all other items were phrased positively.
- Item (e): One person commented that while the student assessment data could be used to choose professional development, he is not allowed to do so because those decisions are made by his principal or district. Another person agreed with this item because the assessment program did "allow" her to target professional development. However, she admitted that she did not do so.
- When asked what other items might be included in this question, participants suggested "The assessment program helps student learning," "The assessment program is a good use of students' time," and "The assessment program is beneficial to my school."

Recommendations

- Retain the wording of the question that specifically refers to the state assessment program associated with AYP.
- Change the wording of item (a) from "I did not receive adequate support…" to "I received adequate support."

Attachment C-1: Interview Protocol

Note: The question numbers used in this protocol do not match the numbers used in the body of Macro's report of findings.

MACRO

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September 17, 2007

NCES Teacher Follow-Up Survey Interview Protocol

I. Introduction

"Thank you for agreeing to be interviewed for this project. My name is _____, and I work for Macro International, an independent company that has been hired by the U.S. Department of Education to conduct this study. We will be asking you to help revise and improve a questionnaire called the Teacher Follow-Up Survey. This is a survey that the Department of Education administers to teachers and former teachers every four years.

"During this interview I am going to ask you to read and answer a number of questionnaire items, one at a time. As you go through the questions, I would like you to explain what you are thinking out loud, so I can get a sense of your thought process as you answer each item. For example, if you are trying to decide what your answer is, please explain why you are unsure. If you have trouble understanding a question, or are confused by it, please be sure to explain that to us as well.

"The feedback you provide in this interview will be completely anonymous. In our report to the Department of Education, we will not connect anyone's comments with their name. The feedback that we collect will have a direct impact on the design of next year's survey, so please open and honest in your comments.

"Do you have any questions before we begin?"

Before you begin, ask them the screening question for their group just to confirm that they are qualified for the interview:

Group A:
1. Were you a K–12 classroom teacher for at least one of the past three years? (Yes)
2. Are you currently a K–12 classroom teacher? (NO)

Group B:
1. Are you currently a K–12 classroom teacher? (Yes)
2. In the past two years, have you switched schools? (Yes)

Group C:
1. Are you currently a K–12 classroom teacher? (Yes)
2. Are you currently receiving a pension from a teacher retirement system? (Yes)

Group D:
1. Are you currently a K–12 classroom teacher? (Yes)

II. Questionnaire Items

Go through the appropriate questionnaire items with the participant. As the participant answers each item, record their answer on the sheet. If they hesitate while answering or reading a question at any point, ask them to explain why.

In each case, allow them to complete the entire question series before asking any follow-up or probe questions, or providing any clues as to the purpose or meaning of the question. After the series is completed, then go back and ask any follow-ups that are necessary for each of the individual items.

Question Series A

1. Do you consider yourself to be retired from the position of a K–12 teacher?

__ Yes
__ No

Interviewer Notes:

Probes:
1. Please explain in your own words what you think this question is asking. When you first encountered this question, how did you interpret the word "retired" in this item?

2. Did your interpretation of this question change at all after reading the subsequent questions?

Question Series A

2.   **Are you currently receiving any Social Security payments?**
    Report annual amounts in whole dollars.
    Record amount, then GO TO item 3 below.

        __Yes → If "Yes," How much? $ |__|__|__| , |__|__|__|.00 per year
        __ No

Interviewer Notes:

Probes:

1. Is there anything about this item that was confusing or unclear to you?

2. Is the dollar amount that you provided exact, or is it an estimate? If it is an estimate, how accurate do you think it is?

3. Is the dollar amount that you provided a "per year" amount? If not, what is it?
        a. Would it be easier for you to provide a monthly amount instead of an annual amount?

Question Series A

3.   a. Are you currently collecting a pension from a teacher retirement system or drawing money from a school/system sponsored 401(k) or 403(b) or similar type of retirement savings plan which includes funds you contributed as a teacher?
(401(k) and 403(b) plans are retirement plans in which employees authorize their employers to deduct money from their paycheck before taxes are calculated and invest it in various investment and savings options that become available to employees without penalty upon retirement and/or at a specified age.)

__Yes
__ No → **Go to item 3.**

Interviewer Notes:

- *Was there any indication that the participant was thrown by this question, or thought it was strange?*
- *Was there any indication that the participant confused "collecting a pension" with "contributing to a pension"?*

Probes:
 1. Is there anything about this item that was confusing or unclear to you?

 2. Please re-read the description of 401(k) and 403(b) plans in italics. Do you think that description accurately describes these plans?

 3. [If participant responded "No" to item 2a] What kinds of teachers do you think would respond "Yes" to this question?

Question Series A

3.   b. How much do you receive BEFORE TAXES from this teacher retirement system pension or 401(k)/403(b) or similar type of plan that was funded while you were a teacher?

b.1. Pension $ |__|__|__| , |__|__|__|.00 per year → Year began drawing pension |__|__|__|__|

[   ] None, I do not receive a pension

b.2. 401(k)/403(b) $ |__|__|__| , |__|__|__|.00 per year → Year began drawing money |__|__|__|__|

[   ] None, I do not draw money from a 401(k)/403(b) at this time

Interviewer Notes:

- *Was there any indication that the participant had difficulty distinguishing a "pension" from a "401(k)/403(b)"?*

Probes:
1. [*Confirm with the participant that their response was put in the right place (pension vs. 401(k)).*]

2. Is the dollar amount that you provided exact, or is it an estimate? If it is an estimate, how accurate do you think it is?

3. Is the dollar amount that you provided a "per year" amount? If not, what is it?
      b. Would it be easier for you to provide a monthly amount instead of an annual amount?

4. Is the dollar amount that you provided a <u>before tax</u> amount, as was asked in the question? If not, would you be able to provide a before tax amount?

Question Series A

3.   c. From where is your teacher retirement system pension or school/system sponsored 401(k)/403(b) being drawn?

___ The district or school system in which I taught last year (2006–07 school year)
___ A district or school system other than the one in which I taught last year
___ Other, please specify _____

<u>Interviewer Notes:</u>

<u>Probes:</u>
   1. Is there anything about this item that was confusing or unclear to you?

   2. What "other" responses do you think teachers might provide to this question?

Question Series A

4.   **a. Are you currently collecting a pension from a ANOTHER retirement system or drawing money from a sponsored 401(k) or 403(b) plan which includes funds you contributed from a position OTHER than a K–12 teacher?**

       __ Yes
       __ No

<u>Interviewer Notes:</u>

- *Does participant understand that this is asking about pensions or 401(k)/403(b)s from a job <u>other</u> than teaching?*

Probes:
1. Is there anything about this item that was confusing or unclear to you?

Question Series A

4. b. How much do you receive BEFORE TAXES from this OTHER retirement system pension or 401(k)/403(b) or similar type of plan that was funded from a position OTHER than a K–12 teacher?

b.1. Pension $ |__|__|__| , |__|__|__|.00 per year → Year began drawing pension |__|__|__|__|

[   ] None, I do not receive a pension

b.2. 401(k)/403(b) $ |__|__|__| , |__|__|__|.00 per year → Year began drawing money |__|__|__|__|

[   ] None, I do not draw money from a 401(k)/403(b) at this time

Interviewer Notes:

- Was there any indication that the participant had difficulty distinguishing a "pension" from a "401(k)/403(b)"?

Probes:
1. [*Confirm with the participant that their response was put in the right place (pension vs. 401(k)).*]

2. Is the dollar amount that you provided exact, or is it an estimate? If it is an estimate, how accurate do you think it is?

3. Is the dollar amount that you provided a "per year" amount? If not, what is it?
      c. Would it be easier for you to provide a monthly amount instead of an annual amount?

4. Is the dollar amount that you provided a <u>before tax</u> amount, as was asked in the question? If not, would you be able to provide a before tax amount?

Question Series B

4. **a. Does your previous employment as a teacher qualify you for health insurance coverage through a state, district, or school-sponsored plan?**
    (The sponsor of health insurance plans is different in different districts)
    ___ Yes
    ___ No → **Go to item 5.**

    b. Who is sponsoring your health insurance plan?
    ___ A state
    ___ A school district
    ___ A school
    ___ Other: _____

Interviewer Notes:

- *Do participants understand that item 4a is asking if they are currently qualified for coverage?*

Probes:
1. Is there anything about either of these items that was confusing or unclear to you?

2. [*If participant responded "No" to item 4a*] Why are not you qualified for coverage through your previous employment as a teacher?

3. [*Ask this probe of everyone, even if they answered "No" to item 4a*] Do the response options in 4b make sense? Are there any other options that should be provided?

Question Series B

5.   **a. Did you receive an early retirement incentive to leave the position of a K–12 teacher at your previous school?**
(An early retirement incentive is a monetary bonus or reward used to encourage teachers to retire.)
__ Yes
__ No → **Skip item 5b.**

   b. Would you have remained in teaching if you had not received an early retirement incentive?
__ Yes
__ No

Interviewer Notes:

Probes:
1. Is it clear what is meant by an "early retirement incentive" in this question?

2. Is there anything about this item that was confusing or unclear to you?

Question Series C

6   **a. This school year, are you a Highly Qualified Teacher (HQT) according to your state's requirements?**
(Generally, to be Highly Qualified, teachers must meet requirements related to 1) a bachelor's degree, 2) full state certification, and 3) demonstrated competency in the subject area(s) taught. The HQT requirement is a provision under No Child Left Behind (NCLB).)

   __ Yes → **Skip item 6b.**
   __ No

   b. Do you meet your state's requirements for a Highly Qualified Teacher in at least one subject that you teach?

   __ Yes
   __ No

Interviewer Notes:

- *To what extent is the participant very familiar with the meaning of the term HQT, and to what extent do they have to "figure it out" for this question?*
- *Do participants who respond "Yes" to item 6a realize that they should skip item 6b? If not, how do they answer 6b?*

Probes:

1. Is it clear what is meant by "Highly Qualified Teacher" in this question?

2. Does the description in italics in item 6a seem to accurately describe the HQT requirement in your state?

3. Is there anything about either of these items that was confusing or unclear to you?

Question Series D

Item 7: <u>Before the participant begins reading item 7</u>, ask the following question:

1. What were the reasons that you decided to leave your last school? (*Record all reasons, in approximate order of importance.*)

Then ask them to complete question 7.

7. **Indicate the level of importance EACH of the following played in your decision to leave your previous school.**

    (The following scale is used for the items below: 1) Not at all important, 2) Slightly important, 3) Somewhat important, 4) Very important, 5) Extremely important)

    a. **This year's school is closer to my home.**
    b. **My health or the health of a loved one required that I change schools.**
    c. **I was laid off, involuntarily transferred, or my contract was not renewed.**
    d. **My previous school was reorganized or closed.**
    e. **I was dissatisfied with changes in my job description or responsibilities at my previous school.**
    f. **I wanted better salary or benefits than what I received at my previous school.**
    g. **I was dissatisfied with workplace conditions (e.g., facilities, classroom resources, school safety) at my previous school.**
    h. **I was dissatisfied with administrator(s) at my previous school (e.g., lack of communicating respect, encouragement to change teaching methods, working with staff to meet curriculum standards, encouragement of professional collaboration).**
    i. **I did not have enough autonomy over my classroom at my previous school.**
    j. **I was dissatisfied with my previous school for other reasons not included above.**
    k. **I felt job security would be higher at this year's school.**
    l. **I had an opportunity for a better teaching assignment (subject area or grade level) at this year's school.**
    m. **I was dissatisfied with how student assessments, school accountability, or teacher quality measures impacted my teaching at my previous school.**
    n. **I was dissatisfied with the large number of students I taught in my previous school.**
    o. **I was dissatisfied with having my compensation, benefits, or rewards tied to the performance of my students in my previous school.**
    p. **I did not feel prepared to mainstream special needs (e.g., disabled) students in my regular classes at my previous school.**
    q. **I felt that there were too many intrusions on my teaching time (i.e., time spent with students) at my previous school.**
    r. **Student discipline problems were an issue at my previous school.**
    s. **I was dissatisfied with opportunities for professional development at my previous school.**
    t. **I decided to leave my previous school for other personal or family reasons.**

Question Series D

Item 7 (continued)

<u>Interviewer Notes:</u>

- *Note any issues that the participant has with any of the items.*

<u>Probes:</u>
1. Is there anything about any of these items that was confusing or unclear to you?

2. Do any of the items in this question seem redundant or unnecessary?

Question Series D

3.   From the items above, which do you consider the most important reason in your decision to leave my previous school?
Enter the letter from item 7 above.

|__| Most important reason in my decision to leave

Interviewer Notes:

- *Is there any problem here? Is there any reason that researchers might misinterpret the answer to this question?*

Probes:
1. What would have been your second and third most important reasons, if you had been asked? [*Do these reasons seem comparatively minor, or almost equal in importance to their answer to item 8?*]

2. Did the most important reason in your decision to leave appear in the list in item 7? If not, should it have appeared on the list? How should it have been worded?

Question Series E

4. Indicate how effectively your principal or school head performed each of the following at LAST YEAR'S SCHOOL.
If you are teaching in the same school as you were last year, then report on how effective your principal or school head was last year.

(The following scale is used for the items below: 1) Not at all effectively, 2) Slightly effectively, 3) Somewhat effectively, 4) Very effectively, 5) Extremely effectively)

   a. Communicated respect for and value of teachers
   b. Encouraged teachers to change teaching methods to improve student performance/achievement
   c. Encouraged professional collaboration among teachers
   d. Worked with teaching staff to solve school or department problems
   e. Encouraged the use of student assessment results in planning curriculum and instruction
   f. Worked to develop broad agreement among the teaching staff about the school's mission
   g. Knew what kind of school he or she wanted and communicated it to the staff
   h. Counseled-out or dismissed teachers who were not performing at a satisfactory level

Interviewer Notes:

- Note the person that the participant is considering to be their "principal or school head."

Probes:
   1. What does the phrase "not performing at a satisfactory level" in item 9h mean to you? Please explain it in your own words.

   2. Is there anything about any of these items that was confusing or unclear to you?

   3. Did you have difficulty answering any of these items? If so, why?

   4. In your opinion, should the wording of any of these items be changed?

Question Series F

Item 10: ***Before the participant begins reading item 10****, ask the following question:*

1. What were the reasons that you decided to leave the field of teaching? (*Record all reasons, in approximate order of importance.*)

Then ask them to complete question 10.

5.   Indicate the level of importance EACH of the following played in your decision to leave the position of a K–12 teacher.

(The following scale is used for the items below: 1) Not at all important, 2) Slightly important, 3) Somewhat important, 4) Very important, 5) Extremely important)

a. **This year's job is closer to my home.**
b. **I (or my partner) was pregnant or needed more time for childrearing.**
c. **My health or the health of a loved one required that I leave the profession.**
d. **I decided to retire.**
e. **I was laid off, involuntarily transferred, or my contract was not renewed.**
f. **My previous school was reorganized or closed.**
g. **I was dissatisfied with changes in my job description or responsibilities at my previous school.**
h. **I wanted better salary or benefits that what I received at my previous school.**
i. **I decided to pursue a position other than that of a K–12 teacher.**
j. **I decided to take courses to improve career opportunities WITHIN the field of education.**
k. **I decided to take courses to improve career opportunities OUTSIDE the field of education.**
l. **I was dissatisfied with teaching as a career.**
m. **I was dissatisfied with workplace conditions (e.g., facilities, classroom resources, school safety) at my previous school.**
n. **I was dissatisfied with the administrator(s) at my previous school (e.g., lack of: communicating respect, encouragement to change teaching methods, working with staff to meet curriculum standards, encouragement professional collaboration).**
o. **I did not have enough autonomy over my classroom at my previous school.**
p. **I was dissatisfied with opportunities for professional development at my previous school.**
q. **I felt job security would be higher at this year's job.**
r. **I had an opportunity for a better work assignment at this year's job.**
s. **I was dissatisfied with how student assessments, school accountability, or teacher quality measures impacted my teaching at my previous school.**
t. **I was dissatisfied with the large number of students I taught in my previous school.**

Question Series F

u. **I was dissatisfied with having my compensation, benefits, or rewards tied to the performance of my students in my previous school.**

v. **I did not feel prepared to mainstream special needs (e.g., disabled) students in my regular classes at my previous school.**

w. **I felt that there were too many intrusions on my teaching time (i.e., time spent with students) at my previous school.**

x. **Student discipline problems were an issue at my previous school.**

y. **I decided to leave teaching for other family or personal reasons.**

z. **I was dissatisfied with my previous school for other reasons not included above.**

Interviewer Notes:

- *Note any issues that the participant has with any of the items.*

Probes:

2. Is there anything about any of these items that was confusing or unclear to you?

3. Do any of the items in this question seem redundant or unnecessary?

Question Series F

6.   Of the items above, which do you consider the most important reason in your decision to leave the position of a K–12 teacher?
    *Enter the letter from item 10 above.

    |__| Most important reason in my decision

Interviewer Notes:

- *Is there any problem here? Is there any reason that researchers might misinterpret the answer to this question?*

Probes:

1.   What would have been your second and third most important reasons, if you had been asked? [*Do these reasons seem comparatively minor, or almost equal in importance to their answer to item 11?*]

2.   Did the most important reason in your decision to leave appear in the list in item 10? If not, should it have appeared on the list? How should it have been worded?

Question Series G–H

12a.   Do you plan to return to the position of a K–12 teacher at some point in the future?
____ **Yes**
____ **No → Go to item 13.**

b. When do you plan to return to the position of a K–12 teacher?
*Mark (X) only one box.
____ Later this school year (2007–08)
____ Next school year (2008–09)
____ After the 2008–09 school year but before the 2012–13 school year
____ During the 2012–13 school year or later
____ Timing unknown

Interviewer Notes:

- Would it be better if 12b listed time periods ("3 to 5 years from now") rather than specific school years?
- **STOP PARTICIPANT FROM CONTINUING TO ITEM 13 (SEE NEXT PAGE)**

Probes:
1. Is there anything about either of these items that was confusing or unclear to you?

2. [*For those that gave an answer other than "timing unknown" to item 12b*] How sure are you of the timing of your return to teaching?

3. [*For those that answered "Yes" to 2a*] What factors would impact when you decided to return to teaching?

Question Series G–H

Item 13: *__Before the participant begins reading item 13__, ask the following question:*

1. What are factors that might influence your decision whether or not to return to the position of a K–12 teacher? (*Record all reasons, in approximate order of importance.*)

Then ask them to complete question 13.

13. Indicate how important each factor would be in influencing your decision to return to the position of a K–12 teacher.

(The items below use the following scale: 1) Not at all important, 2) Slightly important, 3) Somewhat important, 4) Very important, 5) Extremely important)

a. **Ability to maintain your teacher retirement benefits**
b. **State certification reciprocity (a state's acceptance of teacher certifications from other states)**
c. **Availability of part-time teaching assignments**
d. **Forgiveness of your student loans**
e. **Housing incentives (e.g., subsidies, rent assistance, low interest loans, relocation assistance)**
f. **An increase in salary**
g. **Availability of suitable childcare options**
h. **Ability to enroll own children in your school/system at no or reduced tuition**
i. **Better benefits package**
j. **Financial support for certification/recertification/continuing education requirements**
k. **Availability of teaching assignments in a particular grade or subject field**
l. **Effective disciplining of students by the principal or school head**
m. **A better school support network to help me develop or polish my teaching skills**

Interviewer Notes:

Probes:
1. Are there any factors that you would consider to be important that do not appear on this list?

Question Series G–H

2. Are there any items listed that you believe do not belong on this list?

3. Are there any items that you believe should be reworded?

4. Are there any items that you find confusing or unclear?

Question Series G–H

14   a. Assuming the same salary schedule you were under when you last taught, would you return to the position of a K–12 teacher if you received a one-time bonus?
__ Yes
__ No → Skip item 14b.

  b. What is the lowest amount that you would accept as a one-time bonus to return to the position of a K–12 teacher?
  Report in whole dollars.

  $ |__|__|__| , |__|__|__|.00

Interviewer Notes:

- *How thoughtful does participant appear to be when answering item 14b—in other words, how meaningful is their response?*

Probes:
1. Is there anything about either of these items that you found confusing or unclear?

2. [If response to 15a was "Yes"] How did you determine your answer to 14b?

3. [If response to 14a was "Yes"] When answering this question, were you assuming that you would be returning to teaching in your past school, or were you answering for teaching in general? Would that distinction make any difference in your answer? [*In other words, how important was the distinction between this and the following question (item 15)?*]

Question Series H

15. **a. Would you return as a K–12 classroom teacher to the same school where you previously taught if you received a one-time bonus?**
   *In instances where returning to your previous school is impossible, please mark "No, not feasible to return to the same school"—for example, if you relocated a great distance from your previous school or if this school closed.

   __ **Yes**
   __ **No, not feasible to return to the same school → Skip item 15b.**
   __ **No, would not return to that school for a bonus → Skip item 15b.**

   b. What is the lowest amount that you would accept as a bonus to return to teaching at that school?
   *Report in whole dollars.

   $ |__|__|__| , |__|__|__|.00

Interviewer Notes:

- *How thoughtful does participant appear to be when answering Q15b—in other words, how meaningful is their response?*

Probes:
  1. Is there anything about either of these items that you found confusing or unclear?

  2. [*If response to 15a was "Yes"*] How did you determine your answer to 15b?

  3. [*If response to 15a was "Yes"*] In what situations do you think someone might respond in item 16a that returning to their previous school was "not feasible"?

  4. [*If response to 15a was either of the "No" options*] Did you have any difficulty determining which of the two "No" options was more appropriate for you?
      a. If you selected "not feasible," why is returning to teaching at that school not feasible? Would you have returned for a one-time bonus if it <u>were</u> feasible?

Question Series G–H

16. What is the LOWEST teaching salary, not including benefits, you would accept to return to the position of a K–12 teacher?
*Report in whole dollars.

$ |__|__|__| , |__|__|__|.00

Interviewer Notes:

- How thoughtful does participant appear to be when answering—in other words, how meaningful is their response?
- What response do participants give if they have no intention of returning to teaching?

Probes:
1. Is there anything about this item that you found confusing or unclear?

2. How did you determine this answer? (e.g., comparing to salaries in other fields, comparing to your own previous salary as teacher, etc.)

3. When answering this question, were you imagining that you would be returning to teaching in your previous school specifically, or to teaching in general? Would that distinction make any difference in your answer?

Question Series I

17.   **To what extent do you agree or disagree with each of the following statements about the state assessment program used for measuring Adequate Yearly Progress at LAST YEAR'S SCHOOL?**

(The following scale is used for the items below: 1) Strongly agree, 2) Somewhat agree, 3) Somewhat disagree, 4) Strongly disagree)

   a.   **I did not receive adequate support to prepare my students for the assessments.**
   b.   **I believe that my students were capable of performing well on the assessments.**
   c.   **The assessment program influenced the curriculum I taught.**
   d.   **My students' knowledge and abilities were reflected accurately through their performance on assessments.**
   e.   **My students' results allowed me to target appropriate professional development for myself.**
   f.   **My students' results allowed me to identify their specific needs.**
   g.   **Overall, I was satisfied with the assessment program.**

<u>Interviewer Notes:</u>

<u>Probes:</u>
1. In your own words, can you tell me what item "a" in question 17 is asking?

2. In your own words, can you tell me what item "e" in question 17 is asking?

3. Is there anything about either of these items that you found confusing or unclear?

4. The purpose of question 17 is to get a complete picture of the attitudes of teachers toward state and district assessment programs. With that in mind, are there other items that should be included in question 17?

III. Closing

At the conclusion of the interview, thank the respondent. Confirm their mailing address, so that we can send their stipend. Tell them that they should receive their stipend in 2–3 weeks; if they have not by that time, they should call Shauna Clarke at 301-572-0522 (NOT the 1-866 number, because it will not necessarily still be in service at that time).

Also, ask if we can keep their contact information on file in order to contact them for participation in similar projects in the future.

Appendix D. Second Cognitive Testing of TFS Items: Summary of Findings and Recommendations

This appendix contains a report prepared by Macro International, Inc., and delivered to the U.S. Census Bureau in June 2008. The contents are listed below.

Background

In the spring of 2008, the Census Bureau contracted with Macro International, a research and evaluation company in Calverton, MD, to plan and carry out a series of cognitive interviews with current and former teachers. The purpose of these interviews was to gather feedback on a number of proposed questions for the Teacher Follow-Up Survey (TFS), which is a national survey administered by the National Center for Education Statistics (NCES) and the Census Bureau.

This report is a summary of the feedback that Macro International received from participants, as well as the methodology that was used in conducting the interviews. The report also provides Macro's recommendations for revisions to the proposed TFS items.

Summary of Methodology

Description of Participants

Macro conducted 24 interviews with current and former teachers in the categories shown in table D-1 below.

Table D-1.   Description of interview participants

Group	Number of participants
Group 1: Current teachers who are still teaching in the same school they were in last year	6
Group 2: Current teachers who changed schools in the past 2 years	10
Group 3: Former teachers who left the field in the past 2 years	8

Within each group, Macro also specifically recruited teachers who had earned their teaching certification through an alternative teacher preparation program. In all, 10 teachers who fit this category were interviewed.

To facilitate recruitment of participants, the Census Bureau provided Macro with a list of teachers randomly selected from the national sample for the 2007–08 Schools and Staffing Survey. Macro then recruited participants by both telephone and e-mail. All participants had been teaching for less than five years, and represented all school levels (elementary, junior high/middle, and high school). Macro also purposefully recruited teachers from a range of states. Current and former teachers were interviewed from the following states: California, Colorado, the District of Columbia, Florida, Idaho, Maryland, Michigan, New Jersey, Utah, and Virginia.

Interview Protocol

Each interview was 45 to 60 minutes long and was conducted by phone. Prior to each interview, the participant was emailed a copy of the proposed items and told to print them out but not to read them. During the interview, participants were asked to answer the proposed TFS questions as they normally would if they answering a survey. As they answered each item, they were asked to "think aloud"—that is, to describe out loud what they were thinking as they read and answered the question. After the respondent had answered an item, the interviewer would then ask appropriate follow-up questions or probes.

A copy of the original protocol is included as an attachment to this report. This version of the protocol contains interview questions for all the items tested. However, not all items were shown to every

participant. Each participant was only shown items that they would normally have been asked to answer—for example, item 2 ("How well did your alternative certification program prepare you to be teacher?") was only asked of respondents who obtained their certification through an alternative certification program.

Summary of Participant Feedback and Recommendations

The following section of this report summarizes the results of this study. For each item, we provide the wording of the question being tested, a list of relevant findings, and then our recommendations for how the item could be improved.

Item 1 (TFS-2L & TFS-3L: Mentor Teacher Support)

ITEM 1

Last school year (2007–08), how frequently did your master or mentor teacher work with you in the following areas? To what extent did your work in this area improve your teaching?

Area	Last school year (2007–08), how frequently did your master or mentor teacher work with you in the following areas? *Mark (X) one box on each line.* * If you mark "never" in the first column, leave the second column blank.				To what extent did your work in this area improve your teaching? *Mark (X) one box on each line.*			
	Never	A few times a year	Once or twice a month	At least once a week	Not at all	To a small extent	To a moderate extent	To a great extent
a. Selecting and adapting curriculum, instructional materials, and/or writing lesson plans	☐	☐	☐	☐	☐	☐	☐	☐
b. Classroom management and discipline	☐	☐	☐	☐	☐	☐	☐	☐
c. Using or incorporating a variety of instruction methods	☐	☐	☐	☐	☐	☐	☐	☐
d. Using technology in your classroom	☐	☐	☐	☐	☐	☐	☐	☐
e. Assessing students and interpreting assessment data	☐	☐	☐	☐	☐	☐	☐	☐
f. Teaching your subject matter or grade level	☐	☐	☐	☐	☐	☐	☐	☐
g. Interacting with parents	☐	☐	☐	☐	☐	☐	☐	☐
h. Reflecting on your teaching practice	☐	☐	☐	☐	☐	☐	☐	☐

Findings:

Instructions & Layout

- Three respondents did not realize that the table had two sections and that for each row they were asked to check one box in each of the two sections. Two of the three did not answer the second section that asked respondents to indicate the extent to which their work improved. The third individual treated the scale for the two sections as one large scale going from "Never" to "To a great extent."

- Two respondents were confused by the instructions on the second section of the table. They were not sure if the question referred to the extent to which their mentors improved their teaching, or if the question was asking how their teaching improved in general.

- Four respondents had a difficult time understanding which mentor should serve as their point of reference as they answered the question. Although one respondent could identify two teachers who mentored him during his first year as a teacher, he was not sure if he was ever assigned an official mentor. Another respondent had two mentors, one provided through her school district and the other through her alternative certification program. The two other respondents were assigned official mentors, but also had other colleagues who mentored them with whom they interacted more frequently. In one of these cases the respondent referenced their officially assigned mentor when answering the question. In the other case, the respondent answered each question based on which mentor (colleague or official) provided the most help in that area.

- Two respondents pointed out that there was a gap in the scale. They said that in some areas they interacted with their mentor less than once a week, but more than once or twice a month. Both finally selected once or twice a month.

- Two teachers initially had difficulty identifying the frequency with which their mentors interacted with them, as the frequency of interaction changed throughout the year. In the beginning of the year, their mentor met with them frequently, but as the school year progressed they met less frequently. Both respondents appeared to make their selection based on how often they met with their mentor at the start of the year.

- As respondents went through the list, two became slightly confused and appeared to answer some questions based on their own activity, rather than how often mentors met with them with regard to that activity. For example, instead of estimating how often their mentor met with them about interacting with parents, they instead noted how often they themselves interacted with parents.

Individual Items

- *Item (d):* One respondent was confused by this item because she was not clear what type of technology the question referenced. She questioned whether it meant her use of technology such as using SMART boards, or her students' use of technology such as using computers. She based her response on her students' technology use, not her own.

- *Item (e):* One respondent was unsure of how to answer this question. She felt that although her ability to assess and interpret data improved, this was not due to her mentor, but to other colleagues. In answering this question, she therefore referenced her other mentors. In other items she referenced her assigned mentor.

- *Item (f):* Two respondents thought this item was awkward because they felt that this item was an "umbrella" term that captured all the other items. Two additional respondents had a difficult time differentiating between this item and item (a).

- *Item (h):* Two respondents were unsure what the word "reflect" meant. One thought it meant journaling; while another thought it meant looking at yourself and deciding what you need to improve on.

- One respondent recommended that two items be added to the list—one that referenced differentiation (teaching or managing students with varying learning styles and abilities), and another that related to interaction with the school administration.

Recommendations:

- Ensure that the layout of the table is clear so that respondents recognize there are two separate questions being asked.

- Clarify in the instructions whether respondents are to consider only officially assigned mentors, or whether they are also to consider other teachers that may have provided support. In addition, clarify whether respondents should reference their school mentor or their teacher preparation program mentor. (Note: This may also be clarified through lead-in questions that were not tested as part of this project.)

- Revise the second part of the question ("To what extent…") to emphasize that respondents are only to address the extent to which interactions with their mentor improved their practice, rather than the extent to which their practice generally improved.

- Consider changing "Once or twice a month" to "One to three times a month."

- Consider removing or modifying item (f).

- Consider adding an item that asks about differentiation: teaching or managing students with varying learning styles and abilities.

- Consider adding an item that asks about interacting with the school administration.

Item 2 (TFS-2L & TFS-3L: Preparation by Alternative Certification Program)

ITEM 2

How well did your alternative certification program prepare you to be teacher?
* Mark (X) only one box.

> __ Did not prepare me at all
> __ Somewhat prepared me
> __ Prepared me well
> __ Prepared me very well

Findings:

- Six respondents reviewed this question. The majority thought that although the program staff did their best to prepare them, there was no program that can truly prepare you for the classroom. One respondent thought the program qualified him to teach but did not prepare him skill-wise.

- Two respondents were concerned that the question sounded judgmental. They felt that their response would imply that their program was either good or bad. These respondents felt that the issue was more complex and they didn't want their answer to reflect that their program was not doing a good job.

Recommendations:

- Depending on the intent of the question, consider re-wording it as follows:

  How effective was your alternative certification program at developing the skills you needed to become a classroom teacher?
  * Mark (X) only one box

  ___Very effective
  ___Somewhat effective
  ___Not at all effective

- In lieu of re-wording this question, consider asking a similar question of traditionally certified teachers so that a valid comparison can be made between the responses of teachers prepared through both methods.

Item 3 (TFS-2L & TFS-3L: Length of Alternative Certification Program)

ITEM 3

For the alternative certification program in which you were enrolled, what was –

a. The length of the training portion provided BEFORE entering the classroom
*Report BOTH months and weeks, e.g., 00 months and 03 weeks, 01 month and 02 weeks, etc.
*If your alternative certification program required no training before entering the classroom, please mark (X) the box.

|__|__| Months AND |__| Weeks

b. The length of the program
* Do not include any required commitment period to teaching.
* Report BOTH years and months, e.g., 03 years and 00 months, 01 year and 10 months, etc.

|__|__| Years AND |__|__| Months

c. The length of time required to commit to teaching
* Report the total length of time required.
* Report BOTH school years and months, e.g., 03 years and 00 months, 01 year and 10 months, etc.

|__|__| Years AND |__|__| Months

time after which teachers could leave the school and receive a bonus for their service. Another respondent stated that her 2-year program was the required commitment, and so entered 2 years in part (a) and also in part (b). One respondent who went through the same type of program instead entered 2 years for part (a) and 0 for part (b), and checked "No commitment" for part (c).

- *Item (c):* One respondent stated that changing the reporting scale in part (c) to school years (instead of years and months) would make answering this question easier, as all required teaching commitments are normally stated in school years.

Recommendations:

- Simplify the question by asking respondents to identify the length of their program, from the time they entered to the time they completed, or will complete the program. Indicate in the instructions that respondents are to include both time spent on coursework and time spent student teaching.

- Alternatively, this question could be clarified by asking about distinct time periods that do not overlap (making clear to respondents when each period begins and ends).

Item 4 (TFS-2L & TFS-3L: Contract Not Renewed)

ITEM 4

a. Did you change schools[1] because your contract was NOT renewed at last year's school?

__ Yes
__ No → GO TO item x below.

b. Which of the following best describes the reason why your contract was NOT renewed?

___ I was laid off as part of a reduction in force
___ I did not meet Highly Qualified Teacher (HQT) requirements
___ My contract was not renewed for other reason(s)

Findings:

- Only one respondent of the 12 who reviewed this item answered yes to this question. She was laid off as part of a reduction in force.

- Three respondents thought that a teacher may not know the real reason his/her contract was not renewed.

- One current teacher was not clear on what the "Highly Qualified Teacher (HQT) requirements" were. While a description of HQT requirements was provided in the version of the question that was given to former teachers, this description was not in the form shown to current teachers.

Recommendations:

- Include a description of HQT requirements in all versions of this question.

- Include a "Don't Know" or "Not Sure" option for item (b).

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[1] For former teachers this question was worded, "Did you leave teaching because your contract was NOT renewed…"

Item 5 (TFS-3L: Factors Influencing Change School Decision)

ITEM 5

Indicate the level of importance EACH of the following played in your decision to leave LAST YEAR'S SCHOOL.
   *Mark (X) one box on each line.
   * If any of the reasons for leaving last year's school do not apply to you, mark 1 for "Not at all important."

(The following scale is used for the items below: 1) Not at all important, 2) Slightly important, 3) Somewhat important, 4) Very important, 5) Extremely important)

I left last year's school –

Personal Life Factors
   a. **Because I wanted to work in a school more convenient to my home.**
   b. **Because my health or the health of a loved one required that I change schools.**

Assignment and Credential Factors
   c. **Because I have not taken or could not pass the required test(s).**
   d. **Because I was being involuntarily transferred and did not want the offered assignment.**
   e. **Because I was dissatisfied with changes in my job description or responsibilities at last year's school.**
   f. **Because I was dissatisfied with the grade or subject I taught in last year's school.**

Salary and Other Job Benefits
   g. **Because my salary did not allow me to meet my financial obligations (e.g., rent, loans, credit card payments).**
   h. **Because I needed better benefits than what I received at last year's school.**
   i. **Because I wanted a higher standard of living than what my salary provided.**
   j. **Because I was concerned about job security at last year's school.**

Classroom Factors
   k. **Because I did not have enough autonomy over my classroom at last year's school.**
   l. **Because I was dissatisfied with the large number of students I taught in last year's school.**
   m. **Because I did not feel prepared to mainstream special needs (e.g., disabled) students in my regular classes in last year's school.**
   n. **Because I felt that there were too many intrusions on my teaching time (i.e., time spent with students) at last year's school.**

School Factors
   o. **Because I was dissatisfied with opportunities for professional development at last year's school**
   p. **Because I was dissatisfied with workplace conditions (e.g., facilities, classroom resources, school safety) at last year's school.**
   q. **Because student discipline problems were an issue at last year's school.**
   r. **Because I was dissatisfied with administrator(s) at last year's school**

ITEM 5 (continued)

s. **Because I was dissatisfied with the lack of recognition or support I received from the administration.**

t. **Because I was dissatisfied with the lack of influence I had over school policies and practices.**

Student Performance Factors

u. **Because I was dissatisfied with how student assessments and school accountability measures impacted my teaching at last year's school.**

v. **Because I was dissatisfied with having some of my compensation, benefits, or rewards tied to the performance of my students in last year's school.**

w. **Because I was dissatisfied with support received for preparing my students for student assessments.**

x. **Because I was dissatisfied with the influence student assessments had on the curriculum at my school.**

y. **Because I was dissatisfied with other aspects of accountability measures not included above.**

z. Because I decided to leave last year's school for other reasons not included above. → *Specify* _____

Findings:

- Two respondents left items blank that did not apply to them, even though the instructions indicated to place a "1" beside those items.

- *Item (k):* Two respondents did not know what the word "autonomy" meant. One thought it meant "something to having to do with control." It is not clear what the other respondent (a teacher for whom English was her second language) thought this word meant.

- *Item (l):* One respondent questioned what would be considered a "large number" of students.

- *Item (s):* One respondent perceived recognition and support to be two different things. One she would give a rating of 5 and the other a rating of 3. In this case she provided a rating of 3.

- *Item (z):* Two respondents provided an "other" reason that they changed schools. In both cases, their reason was that they moved to another city or state.

- *Item (z):* One participant was confused as to whether item z referenced other "student performance factors" not included above, or any other reason not included in any of the items.

Recommendations:

- Consider modifying item (z) to read "Because I decided to leave last year's school for other reasons not included in items a-y above," or placing it under another category heading: "Other Factors."

- Consider including an additional item—"Because I moved"—under Personal Life Factors to capture individuals who changed schools because they switched states, districts, cities, etc.

Item 6 (TFS-3L: Change in Principal/School Head)

ITEM 6

Has there been a change in the principal/school head in your school since the 2007–08 school year?

__ Yes
__ No

Findings:

- All respondents thought this question was clear, and that teachers in general would know if their principal changed.

Recommendations:

- No changes are necessary for this item.

Item 7 (TFS-3L: Satisfaction as a Teacher)

ITEM 7

In general, how satisfied are you as a teacher?
*Mark (X) only one box.

___ Very satisfied
___ Somewhat satisfied
___ Somewhat dissatisfied
___ Very dissatisfied

Findings:

- Three of 10 respondents who reviewed this question had difficulty identifying their level of satisfaction. This difficulty was due to the fact they experienced varying levels of satisfaction based on the aspect of their teaching life they were considering.

- Four respondents recommended the question be broken down to address specific aspects of teaching such as curriculum, school facility, and administration.

Recommendations:

- Depending on the intent of the question, clarify whether respondents are being asked if they are satisfied with their current teaching position or with teaching as a profession.

Item 8 (TFS-3L: Mentor Program Impact on Teaching)

ITEM 8

Overall, to what extent has the mentor program improved your current teaching experience during the current school year?
*Mark (X) only one box.

     __ Not at all
     __ To a small extent
     __ To a moderate extent
     __ To a great extent

Findings:

- Most respondents did not have any difficulty answering this question. However, one respondent was unclear as to whether he was in an "official" mentor program.

Recommendations:

- No changes are necessary for this item.

Item 9 (TFS-2L & TFS-3L: Work History Prior to Teaching)

ITEM 9

a. Which of the following best describes the majority of your work history prior to becoming a K–12 teacher?

__ Never worked → GO TO item x below.

__ Worked as a homemaker/parent → GO TO item x below.

__ Part-time/temporary jobs while going to school and/or looking for work → GO TO item x below.

__ Job(s) or career(s) in a field(s) related to teaching

__ Job(s) or career(s) in a field(s) not related to teaching

b. In your primary job or career prior to becoming a K–12 teacher, what kind of work did you do, that is, what was your occupation?
Please record your most recent job title; for example, plumber, typist, or farmer.
_____

c. What were your most important activities or duties at this job?
For example, typing, keeping account books, filing, selling cars, operating printing press, laying brick _____

d. How many years did you spend in this occupational field?
Please round to the nearest year

|__|__| Years

Findings:

- Eight of the 16 respondents who reviewed this question had no difficulty answering it.

- One respondent listed the job he was in before becoming a K–12 teacher as "teaching." This was because he was teaching overseas before coming back to the United States to obtain his certification.

- Another respondent answered "job related to teaching" for part (a) because of her student teaching experience in college. She indicated in part (d) that she has been teaching for 3 years, but she was referring to the 3 years that she has been teaching since she graduated from college.

- One respondent worked as a delivery truck supervisor for 9 years while attending school. Although he considered this a temporary job, for part (a) he selected "job not related to teaching" because other people in that position might have considered it a job or career.

- One respondent was not clear how to answer this question because she worked at a department store part-time but was also a substitute teacher. She was not sure which one represented the majority of her work history. She eventually selected "job not related to teaching." Interestingly, during the time she was working she was also a student, but she did not think to check "part-time or temporary job while going to school."

- Only one respondent had difficulty describing the important activities or duties of his/her occupation in part (c). This was because he/she had been an executive assistant, and did a variety of tasks.

Recommendations:

- Depending on the intent of the question, it may be necessary to clarify the directions associated with part (b). Currently, the directions are to simply "record your most recent job title"—but in some cases, that job title may not actually relate to a respondent's "primary job or career" before teaching. For example, a respondent might have worked in banking for 15 years, but substitute taught for one year before becoming a full-time teacher.

- Note in the directions that respondents are not to consider student teaching in their answers to this item.

Item 10 (TFS-2L & TFS-3L: Number of People Supported)

ITEM 10

a. **Including yourself, how many people did you (and your spouse/partner) support between July 1, 2008 and June 30, 2009?**
Please include yourself, your spouse/partner, and your and your spouse/partner's children who received more than half of their support from you.

Also include any other people, including your parents, who received more than half of their support from you.

/__/__/ People

b. **How many of these dependents are-**

__ yourself?
__ your spouse/partner?
__ your parents?
__ less than 5 years old?
__ at least 5 years old but less than 18 years old?
__ 18 years of age or older (excluding yourself, spouse/partner, and parents)?

Findings:

- Seven of 10 respondents were able to answer this question correctly.

- One respondent answered part (a) correctly, but instead of putting numbers in part (b), he put check marks beside the various categories. Because he was identifying himself, his spouse, and one child, the appropriate responses could be easily derived. Another began using check marks, but realized his mistake when he encountered a category for which the answer was "2."

- Another respondent answered 0 in part (a) and on all lines of part (b), not realizing that he should count himself.

- One respondent was confused as to whether he should include his spouse, as he does not consider his spouse a dependent.

Recommendations:

- Simplify the directions for the item as follows: "Please include yourself, your spouse/partner, and anyone who received more than half their support from you, including children and parents."

- Do not use the word "dependent" in the question, because people find it confusing. In particular, do not use this word in part (b) of the question if it was not used in part (a) because some respondents may not realize that both items are asking about the same group of people.

- Consider combining parts (a) and (b) and pre-printing a "1"on the "yourself" line, so that respondents know they are to write numbers in the blanks. For example:

Including yourself, how many people did you (and your spouse/partner) support between July 1, 2008 and June 30, 2009?
Please include yourself, your spouse/partner, and anyone who received more than half their support from you including children and parents.

1 yourself?
__ your spouse/partner?
__ your parents?
__ children less than 5 years old?
__ children at least 5 years old but less than 18 years old?
__ other people 18 years of age or older (excluding yourself, your spouse/partner, and your parents)?

Item 11 (TFS-2L: Main Occupational Status)

ITEM 11
What is your current MAIN occupational status?
*Mark (X) only one box.

__ Working in a position in the field of K–12 education, but not as a K–12 classroom teacher → GO TO item 1 below.
__ Working in a position in the field of pre-K or postsecondary education → GO TO item x below.
__ Working in an occupation outside the field of education, including military service → GO TO item x below.
__ Student at a college or university
__ Caring for family members
__ Retired
__ Disabled
__ Unemployed and seeking work → GO TO item x on page x.
__ Other – Specify → _____

11a. Is your current main occupation a –
* Mark (X) only one box.
* If you have more than one position, mark the position for which you spend the most time.

__ Principal/school head/dean
__ Assistant principal
__ School district administrator
__ Librarian
__ Library technician
__ Audio-visual collections specialist
__ Instructional coordinator
__ Teacher assistant
__ Counselor or school psychologist
__ Short-term substitute
__ Teacher aide
__ Other occupation → *please specify*_____

Findings:

- Most respondents had no difficulty with this question and were able to select the most appropriate options for their situation. The exception was one respondent who selected "Working in an occupation outside the field of education" AND "unemployed or seeking work" as she is currently an independent contractor seeking work. Although she understood that the instructions required that only one box be checked, she did not think that one box could define what she did.

- Some respondents were unsure what it meant to be working "in the field of K–12 education." One respondent who selected this option worked in the field of museum education. Another worked in a marketing role for a publishing company that produces K–12 material.

- Additional positions that respondents thought should be included in the list of K–12 occupations were: paraprofessional, technology coordinator/facilitator, and special education teachers/coordinators.

Recommendations:

- Depending on the intent of the item, consider clarifying what is meant by working in the field of K–12 education. For example "Working for a state, district, or school in a position in the field of K–12 education, but not as a K–12 classroom teacher."

Item 12 (TFS-2L: Factors Influencing Decision to Leave Teaching)

ITEM 12
Indicate the level of importance EACH of the following played in your decision to leave the position of a K–12 teacher.
   Mark (X) one box on each line.
   * If any of the reasons for leaving teaching do not apply to you, mark 1 for "Not at all important."

(The following scale is used for the items below: 1) Not at all important, 2) Slightly important, 3) Somewhat important, 4) Very important, 5) Extremely important)

I left the position of a K–12 teacher –

Personal Life Factors
   a.   Because I wanted to take a job more convenient to my home.
   b.   Because I was pregnant or needed more time to raise my child(ren).
   c.   Because my health or the health of a loved one required that I leave the profession.
   d.   Because I decided it was time to retire.

Assignment and Credential Factors
   e.   Because I have not taken or could not pass the required test(s).
   f.   Because I was being involuntarily transferred and did not want the offered assignment.
   g.   Because I was dissatisfied with changes in my job description or responsibilities at last year's school.
   h.   Because I was dissatisfied with the grade or subject I taught in last year's school.

Salary and Other Job Benefits
   i.   Because my salary did not allow me to meet my financial obligations (e.g., rent, loans, credit card payments).
   j.   Because I needed better benefits than what I received at last year's school.
   k.   Because I wanted a higher standard of living than what my salary provided.
   l.   Because I was concerned about my job security at last year's school.

Other Career Factors
   m. Because I decided to pursue a position other than that of a K–12 teacher.
   n.   Because I was dissatisfied with opportunities for professional development at last year's school.
   o.   Because I decided to take courses to improve career opportunities WITHIN the field of education.
   p.   Because I decided to take courses to improve career opportunities OUTSIDE the field of education.
   q.   Because I was dissatisfied with teaching as a career.

Classroom Factors
   r.   Because I did not have enough autonomy over my classroom at last year's school.
   s.   Because I was dissatisfied with the large number of students I taught in last year's school.
   t.   Because I did not feel prepared to mainstream special needs (e.g., disabled) students in my regular classes in last year's school.
   u.   Because I felt that there were too many intrusions on my teaching time (i.e., time spent with students) at last year's school.

ITEM 12 (continued)

School Factors

v. Because I was dissatisfied with workplace conditions (e.g., facilities, classroom resources, school safety) at last year's school.

w. Because student discipline problems were an issue at last year's school.

x. Because I was dissatisfied with the administrator(s) at last year's school.

y. Because I was dissatisfied with the lack of recognition or support I received from the administration.

z. Because I was dissatisfied with the lack of influence I had over school policies and practices.

Student Performance Factors

aa. Because I was dissatisfied with how student assessments and school accountability measures impacted my teaching at last year's school.

bb. Because I was dissatisfied with having some of my compensation, benefits, or rewards tied to the performance of my students in last year's school.

cc. Because I was dissatisfied with support received for preparing my students for student assessments.

dd. Because I was dissatisfied with the influence student assessments had on the curriculum at my school.

ee. Because I was dissatisfied with other aspects of accountability measures not included above.

ff. Because I decided to leave teaching for other reasons not included above →
Specify _____

Findings:

- *Items (dd) and (ee):* One respondent was not sure if these questions were referring to assessments and accountability measures at the state or district level. She selected a 1 for this question as she was not sure what was being asked.

- *Item (ff):* One respondent was unclear whether item (ff) was referring to any other student performance reasons, or any other reasons in general.

- Another respondent felt that one option missing under personal life factors was "Emotional and mental stress or pressures associated with teaching," which was her primary reason for leaving.

Recommendations:

- Consider modifying item (z) to read "Because I decided to leave teaching for other reasons not included in items a-y above," or placing it under another category heading: "Other Factors."

Item 13 (TFS-2L: Applying for Teaching Position Next Year)

ITEM 13

a. **Did you apply for the position of a K–12 teacher for the 2008–09 school year?**

__ Yes → GO TO item x on page x.
__ No
__ I'm on leave from last year's school (e.g., on maternity or paternity leave, disability leave, or
on sabbatical) → GO TO item x on page x.

b. **Which of the following factors influenced your decision NOT to apply for the position of a K–12 teacher for the 2008–09 school year?**

		Yes	No
a.	I already had a short-term substitute or teacher aide position	☐	☐
b.	I was not interested in continuing a career in K–12 teaching	☐	☐
c.	I wanted to pursue more education	☐	☐
d.	I was not ready to apply	☐	☐
e.	No classroom positions were available locally in my subject area	☐	☐
f.	None of the available positions interested me	☐	☐
g.	I wanted a position outside the classroom in an elementary or secondary school	☐	☐
h.	I wanted to pursue an occupation outside elementary and secondary schools	☐	☐
i.	I have not taken or could not pass the required test or I am not yet certified	☐	☐
j.	Other reason not specified above	☐	☐

If yes→ *please specify* _____

Findings:

- All respondents thought this question was clear and could easily identify the items that best fit their situation.

- One respondent checked under "yes" the items that applied to him, but failed to check "no" for the items that did not.

- Another respondent suggested including removing one column of check boxes and converting the question to one that instructed respondents to "check all that apply."

Recommendations:

- No changes are necessary for this item.

Attachment D-1: Interview Protocol

Note: The question numbers used in this protocol do not match the numbers used in the body of Macro's report of findings.

NCES Teacher Follow-Up Survey Interview Protocol

I. Introduction

"Thank you for agreeing to be interviewed for this project. My name is _____, and I work for Macro International, an independent company that has been hired by the U.S. Department of Education to conduct this study. We will be asking you to help revise and improve a questionnaire called the Teacher Follow-Up Survey. This is a survey that the Department of Education administers to teachers and former teachers every four years.

"During this interview I am going to ask you to read and answer a number of questionnaire items, one at a time. As you go through the questions, I would like you to explain what you are thinking out loud, so I can get a sense of your thought process as you answer each item. For example, if you are trying to decide what your answer is, please explain why you are unsure. If you have trouble understanding a question, or are confused by it, please be sure to explain that to us as well.

"The feedback you provide in this interview will be completely anonymous. In our report to the Department of Education, we will not connect anyone's comments with their name. The feedback that we collect will have a direct impact on the design of next year's survey, so please open and honest in your comments.

"Do you have any questions before we begin?"

Following this introduction, interviewers were instructed to go through the appropriate questionnaire items with the participant. As the participant answered each item, the interviewer recorded their answers on the sheet. If they hesitated while answering or reading a question at any point, the interviewer asked them to explain why.

In each case, the interviewer allowed the participant to complete the entire question series before asking any follow-up or probe questions, or providing any clues as to the purpose or meaning of the question. After the series is completed, the interviewer then went back and asked the following follow-up questions for each item:

Item 1 (TFS-2L & TFS-3L: Mentor Teacher Support)
- What do you think of the way this question is laid out in table format? Is it confusing? Is it clear that you are to select TWO boxes for each area of teaching?
- Are the areas and response options easily and consistently understood? (Is there a clear distinction between the items?)

Item 2 (TFS-2L & TFS-3L: Preparation by Alternative Certification Program)
- NCES defines an alternative certification program as a program that is designed to expedite the transition of non-teachers to a teaching career, for example, a state, district, or university alternative certification program. Is this what you have always understood an alternative certification program to be?
- Did you have a difficulty selecting from the response options?
- Why did you select the response option you did?

Item 3 (TFS-2L & TFS-3L: Length of Alternative Certification Program)
- In your response to part A, did you only include training prior to beginning your teaching position?
- For part A, how difficult was it to remember and accurately report weeks and months? Was your answer here just a guess? If so, about how far off from the correct answer do you think you could be?
- For part B, what does "Required commitment to teaching" mean to you? Did you have any difficulty differentiating between this commitment and the length of your program?
- For part B, does the time you entered include all training you received before and after entering the classroom until the program's requirements were met? Was the time frame you entered just a guess or is it accurate? Would it make sense to just ask for years instead of years and months?
- For part C, was the time frame you entered just a guess or is it accurate? Was it difficult to report this information?

Item 4 (TFS-2L & TFS-3L: Contract Not Renewed)
- Was there anything about the questions or options that were unclear or could be conceived by someone else as unclear?

Item 5 (TFS-3L: Factors Influencing Change School Decision)
- How difficult was it to rate your reasons using the scale?
- Were any of the items unclear?
- Were any of them not relevant reasons that teachers would leave teaching?
- How difficult was is to stay focused as you went through the list? (Were you still reading through the items carefully, or did you begin to just scan? If you were doing this in private, would you carefully read and answer each item?)

Item 6 (TFS-3L: Change in Principal/School Head)
- Do you think all teachers would be aware of whether or not a change in their principal or school head had occurred?

Item 7 (TFS-3L: Satisfaction as a Teacher)
- How are you defining satisfied when you answer this question?
- Do you think this question needs to be more specific? If so, how could this question be modified?

Item 8 (TFS-3L: Mentor Program Impact on Teaching)
- What factors did you consider as you thought about this question?
- How difficult was it to come up with a rating?

Item 9 (TFS-2L & TFS-3L: Work History Prior to Teaching)
- Are the response options clear and comprehensive? Did you have any difficulty selecting an option?
- Did you have any difficult identifying your primary job/career?
- Did you have any difficulty describing your duties?
- For part D, how easy was it to figure out the number of years you spent in this occupation? Is this an accurate number or just a guess? If it is a guess, by how many years may you be off?

Item 10 (TFS-2L & TFS-3L: Number of People Supported)
- How difficult was it to determine who would qualify as someone being supported?
- How difficult was it to classify each of those individuals into one of the groupings provided?

Item 11 (TFS-2L: Main Occupational Status)
- How easy was it to classify your current occupational status using the selection provided?
- Do you think the list is comprehensive? Is there anything that should be added?

Item 12 (TFS-2L: Factors Influencing Decision to Leave Teaching)
- How difficult was it to rate your reasons using the scale?
- Were any of the items unclear?
- Were any of the items not relevant reasons that teachers would leave teaching?
- How difficult was it to stay focused as you went through the list? (Were you still reading through the items carefully, or did you begin to just scan? If you were doing this in private, would you carefully read and answer each item?)

Item 13 (TFS-2L: Applying for Teaching Position Next Year)
- Do you think former teachers who are on leave would have a difficulty or be confused by this question?
- Are all of the response options clear and relevant?

Appendix E. Teacher Status Form (Form TFS-1)

U.S. DEPARTMENT OF EDUCATION
NATIONAL CENTER FOR EDUCATION STATISTICS

Conducted by:
U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU

TEACHER FOLLOW-UP SURVEY
2008–2009 SCHOOL YEAR

(Please correct any errors in name, address, and ZIP Code.)

TEACHER STATUS FORM
for
PUBLIC AND PRIVATE SCHOOLS

NOTICE

This report is authorized by law (Title 1, Part E, Sections 151 (b) and 153 (a) of Public Law 107-279, the Education Sciences Reform Act of 2002). Your answers will be kept confidential and will be used only for statistical purposes.

FORM **TFS-1**
(4-22-2008)

U S C E N S U S B U R E A U

INSTRUCTIONS

All of the teachers listed on the following page were selected for last year's Schools and Staffing Survey (SASS), sponsored by the National Center for Education Statistics. To help us better understand the percentage of teachers who change schools or professions, or who remain at the same school, in ITEM 1, please indicate the current occupational status for each of the teachers listed. Use the OCCUPATIONAL STATUS CODES listed below.

For ITEM 2, indicate if the teacher is currently living outside of the United States. Also, please make corrections to any misspelled teacher names in the space provided beside each name. If you have any questions, call the U.S. Census Bureau toll free at 1–888–262–5934, or e-mail us at *dsd.sass@census.gov*

Please return your completed form, WITHIN 2 WEEKS, to the Census Bureau in the enclosed pre-addressed envelope. If you do not have the return envelope call 1–888–262–5934. Mail your form to:

U.S. Census Bureau
SMQAB–TFS-1(T)
Bldg. 66, Room 323
1201 E. 10th Street
Jeffersonville, IN 47132-0001

OCCUPATIONAL STATUS CODES
(Mark (X) ONE of these codes for each teacher listed on page 3.)

1 Teaching in this school

2 Teaching, but not in this school

3 Not teaching, but working in this school

4 On leave, returning this school year to this school

5 On leave, not returning this school year (e.g. extended maternity/paternity leave, disability, sabbatical, or military leave)

6 Left this school, not currently teaching (e.g. retired, working in another occupation, homemaking, or child rearing)

7 Left this school, occupational status unknown

8 Deceased

Paperwork Burden Statement

NO.	TEACHER'S NAME AS REPORTED IN SASS	ITEM 1: OCCUPATIONAL CODE STATUS *Mark (X) only ONE box for each teacher*								ITEM 2: Mark (X) this box if teacher is currently living outside of the U.S.
		1 – Teaching in this school	2 – Teaching, but not in this school	3 – Not teaching, but working in this school	4 – On leave, returning this school year to this school	5 – On leave, not returning this school year (e.g. extended maternity/paternity leave, disability, sabbatical, or military leave)	6 – Left this school, not currently teaching (e.g. retired, working in another occupation, homemaking, or child rearing)	7 – Left this school, occupational status unknown	8 – Deceased	
		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	☐
		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	☐
		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	☐
		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	☐
		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	☐
		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	☐
		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	☐
		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	☐
		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	☐
		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	☐
		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	☐
		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	☐
		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	☐
		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	☐
		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	☐
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		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	☐
		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	☐
		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	☐
		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	☐

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Appendix F. Results of the Unit Nonresponse Bias Analysis

Appendix F contains detailed tables from the unit nonresponse bias analysis of the 2008–09 Teacher Follow-up Survey (TFS). The tables present estimated and relative bias before and after the application of the noninterview weighting adjustments (see chapter 5 for an overview of the methodology). In addition, percent relative differences are calculated in order to show on a percentage scale the differences between the base-weighted estimate and the noninterview-adjusted estimate of bias. A percent relative difference is calculated as

$$100 \times \frac{\left[\left| B\left(\hat{\theta}_{adj}\right) \right| - \left| B\left(\hat{\theta}_{base}\right) \right| \right]}{\left| B\left(\hat{\theta}_{base}\right) \right|},$$

where $\left| B\left(\hat{\theta}_{base}\right) \right|$ and $\left| B\left(\hat{\theta}_{adj}\right) \right|$ represent the absolute value of the bias associated with a base-weighted estimate and a noninterview-adjusted estimate, respectively. Absolute values were used to reflect the overall magnitude of bias. Therefore, percent relative bias values reflect both positive and negative bias.

The material is organized as follows:

Table F-1.   Unit nonresponse bias of all teachers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Total	1.00	1.00	†	†	1.00	†	†	†
Number of school-related activities outside of normal teaching duties								
0	0.23	0.24	#	-0.01	0.23	#	-0.01	-0.11
1	0.37	0.37	#	#	0.37	#	#	-0.06
2	0.24	0.24	#	-0.01	0.24	#	-0.01	-0.16
3	0.13	0.12	0.01	0.04	0.12	0.01	0.04	-0.09
4	0.03	0.03	#	-0.06	0.03	#	-0.06	0.08
5	0.01	#	#	0.10 *	0.01	#	0.10 *	-0.04
Teacher's age								
Less than 27	0.06	0.07	#	-0.04	0.07	#	0.03	0.01
27–34	0.21	0.22	-0.01	-0.06 *	0.22	#	-0.01	-0.85
35–44	0.26	0.26	#	-0.01	0.26	#	#	-0.90
45–54	0.22	0.22	#	0.02	0.21	#	-0.02	-0.10
55 or more	0.25	0.23	0.01	0.06 *	0.24	#	0.02	-0.73
Alternative certification								
Yes	0.12	0.13	-0.01	-0.05	0.13	#	-0.03	-0.35
No	0.88	0.87	0.01	0.01	0.87	#	#	-0.35
Percentage of K–12 students in school who were approved for free or reduced-price lunches								
Less than 10	0.13	0.13	#	-0.02	0.13	#	-0.04	0.57
10–24	0.16	0.17	-0.01	-0.03	0.16	-0.01	-0.05	0.34
25–49	0.24	0.24	#	0.01	0.24	#	#	-0.87
50–74	0.19	0.19	#	0.01	0.20	#	0.02	0.65
75–89	0.10	0.09	0.01	0.05 *	0.10	0.01	0.07 *	0.26
90 or more	0.07	0.07	#	-0.02	0.07	#	#	-0.87
School did not participate in free or reduced-price lunch program	0.10	0.11	#	#	0.11	#	0.01	1.62

See notes at end of table.

Table F-1.   Unit nonresponse bias of all teachers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Main teaching assignment								
Early childhood or general elementary	0.33	0.33	#	0.01	0.33	#	0.01	0.39
Special education	0.11	0.11	#	0.01	0.11	#	0.01	-0.13
Arts and music	0.06	0.06	#	-0.02	0.06	#	-0.03	0.51
English/language arts	0.12	0.12	#	0.01	0.12	#	0.01	0.74
ESL/bilingual education	0.01	0.01	#	0.02	0.01	#	0.02	-0.12
Foreign languages	0.03	0.03	#	0.03	0.03	#	0.02	-0.21
Health/physical education	0.05	0.06	#	-0.03	0.05	#	-0.03	-0.10
Mathematics	0.09	0.08	#	0.03	0.09	#	0.02	-0.32
Natural sciences	0.06	0.06	#	-0.08	0.06	#	-0.07	-0.13
Social sciences	0.06	0.07	#	-0.01	0.06	#	0.00	-0.51
Vocational/career/technical education	0.05	0.05	#	#	0.05	#	-0.02	#
All others	0.03	0.03	#	#	0.03	#	0.01	1.15
Average number of students taught								
Less than 5	0.02	0.02	#	-0.02	0.02	#	-0.04	1.41
5–9	0.03	0.03	#	0.09 *	0.03	#	0.08 *	-0.08
10–24	0.02	0.02	#	-0.02	0.02	#	-0.02	-0.09
25 or more	0.01	0.01	#	-0.12	0.01	#	-0.14	0.14
Teacher is not pull-out/push-in teacher	0.92	0.92	#	#	0.92	#	#	-0.61
Base teaching salary								
Less than $30,000	0.10	0.10	#	#	0.10	#	0.02	39.67
$30,000–34,999	0.10	0.10	#	0.01	0.10	#	0.04	7.44
$35,000–39,999	0.13	0.13	#	-0.02	0.13	#	#	-0.86
$40,000–49,999	0.32	0.32	#	#	0.32	#	#	0.46
$50,000 or more	0.36	0.36	#	#	0.35	-0.01	-0.02	3.77

See notes at end of table.

Table F-1.   Unit nonresponse bias of all teachers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Teacher has been physically attacked by a student								
Yes	0.09	0.09	#	-0.02	0.09	#	-0.02	0.01
No	0.91	0.91	#	#	0.91	#	#	0.01
A student has threatened to injure teacher								
Yes	0.17	0.17	#	0.01	0.17	#	#	-0.77
No	0.83	0.83	#	#	0.83	#	#	-0.77
School type								
Public charter	0.02	0.02	#	-0.06	0.02	#	-0.03	-0.53
Traditional public	0.86	0.86	#	#	0.86	#	#	-0.79
Private	0.12	0.13	#	-0.02	0.13	#	#	-0.91
Class organization								
Departmentalized instruction	0.49	0.50	-0.01	-0.01	0.49	-0.01	-0.02	0.08
Elementary subject specialist	0.07	0.06	#	0.04	0.07	#	0.04	-0.11
Self-contained class	0.32	0.32	0.01	0.02	0.32	0.01	0.02	0.23
Team teaching	0.04	0.05	#	-0.04	0.04	#	-0.03	-0.35
Pull-out/push-in instruction	0.08	0.08	#	0.02	0.08	#	0.01	-0.61
Number of separate class periods taught								
3 or less	0.09	0.08	#	0.03	0.09	#	0.04	0.23
4	0.10	0.10	#	-0.03	0.10	#	-0.04	0.12
5	0.16	0.16	#	-0.01	0.16	#	-0.01	0.21
6	0.12	0.13	#	-0.03	0.12	#	-0.03	0.05
7 or more	0.09	0.09	#	0.01	0.09	#	#	-0.66
Teacher is not departmentalized	0.45	0.44	#	0.01	0.45	0.01	0.01	0.19

See notes at end of table.

Table F-1.   Unit nonresponse bias of all teachers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Teacher dissatisfaction[5]								
0	0.41	0.41	#	-0.01	0.41	#	#	-0.56
1	0.25	0.26	#	#	0.25	#	-0.01	0.86
2	0.16	0.15	0.01	0.05 *	0.16	0.01	0.05 *	0.05
3	0.10	0.10	#	0.01	0.10	#	0.01	-0.29
4	0.05	0.05	#	-0.01	0.05	#	-0.01	0.18
5	0.03	0.04	-0.01	-0.17 *	0.03	-0.01	-0.18 *	0.04
Teacher participated in professional development activities								
Yes	0.98	0.98	#	#	0.98	#	#	-0.30
No	0.02	0.02	#	-0.11	0.02	#	-0.07	-0.30
Teacher's evaluation of the usefulness of professional development activities								
Not useful	0.01	0.01	#	-0.32	0.01	#	-0.32	#
Somewhat useful	0.16	0.16	#	-0.01	0.16	#	#	-0.59
Useful	0.42	0.42	#	#	0.42	#	#	-0.71
Very useful	0.38	0.37	0.01	0.02	0.38	0.01	0.01	-0.10
Teacher did not participate in professional activities	0.03	0.04	#	-0.10	0.03	#	-0.08	-0.19
Teacher's detailed race/ethnicity								
Hispanic, of any race	0.07	0.07	#	-0.03	0.07	#	#	-0.90
Non-Hispanic, American Indian/Alaska Native	#	#	#	0.04	#	#	0.04	#
Non-Hispanic, Asian/Pacific Islander	0.01	0.01	#	-0.10	0.01	#	-0.10	-0.07
Non-Hispanic, Black	0.06	0.07	#	-0.06	0.07	#	0.03	-0.44
Non-Hispanic, Two or more races	0.01	0.01	#	0.05	0.01	#	0.06	0.22
Non-Hispanic, White	0.84	0.84	0.01	0.01	0.83	#	#	-0.76

See notes at end of table.

Table F-1.   Unit nonresponse bias of all teachers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Teacher's highest degree earned								
Associate's degree or no college degree	0.02	0.02	#	-0.18	0.02	#	-0.16	-0.08
Bachelor's degree	0.47	0.48	-0.01	-0.03 *	0.48	#	0.01	-0.76
Master's degree	0.45	0.44	0.01	0.02 *	0.44	#	#	-0.83
Education specialist or Certificate of Advanced Graduate Studies	0.06	0.05	#	0.06	0.06	#	0.03	-0.53
Doctorate or professional degree	0.01	0.01	#	0.03	0.01	#	#	-0.94
Highly Qualified Teacher								
Yes	0.79	0.79	#	0.01	0.79	#	#	-0.81
No	0.08	0.08	#	-0.02	0.08	#	-0.01	-0.69
Private school teacher	0.12	0.13	#	-0.02	0.13	#	#	-0.91
Total hours per week spent on all school-related activities								
Less than 40	0.08	0.08	#	0.04	0.08	#	0.04	-0.06
40–44	0.09	0.09	#	0.03	0.09	#	0.02	-0.22
45–54	0.46	0.46	#	#	0.46	#	0.01	0.49
55–64	0.28	0.29	-0.01	-0.02	0.28	-0.01	-0.03	0.13
65 or more	0.09	0.09	#	#	0.09	#	#	0.10
Total hours per week spent on classroom instruction								
Less than 21	0.11	0.11	#	0.02	0.11	#	0.01	-0.12
21–25	0.19	0.19	#	0.01	0.19	#	#	-0.96
26–29	0.10	0.10	#	0.01	0.10	#	#	-0.72
30–35	0.50	0.50	#	#	0.50	#	#	-0.64
36 or more	0.09	0.10	#	-0.03	0.09	#	-0.02	-0.37

See notes at end of table.

Table F-1.   Unit nonresponse bias of all teachers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Teacher participated in induction program in first year of teaching								
Yes	0.17	0.18	-0.01	-0.04	0.18	#	#	-0.90
No	0.08	0.08	-0.01	-0.07 *	0.08	#	#	-0.98
Teacher has more than 3 years of teaching experience	0.75	0.74	0.01	0.02 *	0.74	#	#	-0.96
Teacher plans on leaving the profession early								
Yes	0.08	0.08	#	-0.03	0.08	#	#	-0.96
No	0.76	0.75	0.01	0.01	0.76	#	#	-0.77
Undecided	0.16	0.16	#	-0.03	0.16	#	-0.01	-0.62
Community type								
City	0.30	0.30	#	0.01	0.30	0.01	0.02	2.01
Suburb	0.34	0.35	-0.01	-0.03	0.34	-0.01	-0.03	0.13
Town	0.12	0.12	0.01	0.05 *	0.12	#	0.03	-0.33
Rural	0.24	0.24	#	0.01	0.24	#	0.01	-0.22
Main activity last school year								
Teaching at this school	0.84	0.84	0.01	0.01 *	0.84	#	#	-0.58
Teaching at another school	0.08	0.09	#	-0.04	0.08	#	-0.03	-0.30
Other	0.07	0.08	#	-0.06 *	0.08	#	-0.01	-0.79
Teacher's race/ethnicity								
White, non-Hispanic	0.84	0.84	0.01	0.01	0.83	#	#	-0.76
All other race/ethnicities	0.16	0.16	-0.01	-0.04	0.17	#	0.01	-0.76
National Board for Professional Teaching Standards certification								
Yes	0.16	0.17	-0.01	-0.04	0.16	-0.01	-0.03	-0.09
No	0.84	0.83	0.01	0.01	0.84	0.01	0.01	-0.09

See notes at end of table.

Table F-1.   Unit nonresponse bias of all teachers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Number of areas of classroom planning and teaching over which the teacher has no control or minor control[6]								
0	0.45	0.45	#	#	0.44	#	-0.01	0.06
1	0.24	0.24	#	0.01	0.25	#	0.02	1.19
2	0.21	0.21	#	#	0.21	#	0.01	2.11
3	0.07	0.07	#	-0.01	0.07	#	-0.01	-0.51
4	0.02	0.03	#	-0.19 *	0.02	#	-0.21 *	0.05
5	0.01	0.01	#	0.03	0.01	#	0.05	0.71
6	#	#	#	0.06	#	#	0.07	0.32
Amount of own money teacher spent on classroom supplies without reimbursement								
Less than $50	0.10	0.11	-0.01	-0.05	0.11	#	-0.03	-0.38
$50–124	0.18	0.18	#	0.02	0.18	#	0.01	-0.32
$125–249	0.18	0.18	#	-0.01	0.18	#	-0.01	-0.05
$250–399	0.20	0.20	#	0.02	0.20	#	0.02	0.15
$400–749	0.22	0.21	0.01	0.03	0.22	0.01	0.02	-0.09
$750 or more	0.11	0.12	-0.01	-0.05	0.11	-0.01	-0.06	0.15
Teacher's Praxis or other exam results[7]								
Taken and passed	0.73	0.74	-0.01	-0.01	0.74	#	#	-0.98
Taken and not yet passed	#	#	#	-0.05	#	#	-0.04	-0.33
Not taken	0.26	0.26	0.01	0.02	0.26	#	#	-1.00

See notes at end of table.

Table F-1.   Unit nonresponse bias of all teachers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Percentage of teacher's students enrolled in an Individualized Education Program (IEP)								
Less than 2	0.19	0.19	#	#	0.19	#	0.01	1.95
2–4	0.10	0.10	#	-0.04	0.10	#	-0.04	0.05
5–9	0.19	0.19	#	-0.01	0.19	#	-0.01	-0.27
10–24	0.23	0.23	#	0.01	0.23	#	#	-0.22
25–74	0.06	0.06	#	#	0.06	#	#	-0.90
75 or more	0.04	0.04	#	0.04	0.04	#	0.04	-0.17
Teacher is not departmentalized or self-contained	0.19	0.19	#	0.01	0.19	#	0.01	-0.24
Percentage of teacher's students who are of limited-English proficiency (LEP)								
Less than 2	0.53	0.52	0.01	0.01	0.53	0.01	0.01	0.02
2–4	0.07	0.07	#	0.02	0.07	#	0.02	-0.14
5–9	0.06	0.07	#	-0.08	0.06	#	-0.07	-0.09
10–24	0.07	0.07	#	-0.06	0.07	#	-0.05	-0.10
25–74	0.06	0.06	#	-0.05	0.06	#	-0.06	0.05
75 or more	0.02	0.02	#	0.01	0.02	#	0.01	-0.08
Teacher is not departmentalized or self-contained	0.19	0.19	#	0.01	0.19	#	0.01	-0.24
Teaching position								
Regular full-time teacher	0.89	0.90	#	#	0.89	#	#	-0.26
All others	0.11	0.10	#	0.03	0.11	#	0.02	-0.26
Region								
Northeast	0.20	0.20	#	-0.02	0.19	-0.01	-0.03	0.52
Midwest	0.24	0.23	0.01	0.03	0.24	#	0.02	-0.30
South	0.37	0.38	#	-0.01	0.38	#	#	-0.65
West	0.19	0.19	#	0.01	0.20	#	0.02	0.36

See notes at end of table.

Table F-1.   Unit nonresponse bias of all teachers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
School level								
Elementary	0.44	0.43	0.01	0.02 *	0.44	0.01	0.02 *	-0.05
Middle	0.25	0.26	-0.01	-0.03	0.25	-0.01	-0.02	-0.23
Secondary	0.31	0.31	#	-0.01	0.31	#	-0.01	0.41
Teacher's sex								
Male	0.21	0.23	-0.01	-0.05 *	0.21	-0.01	-0.05 *	0.06
Female	0.79	0.77	0.01	0.01 *	0.79	0.01	0.01 *	0.06
School enrollment								
Less than 200	0.10	0.10	#	-0.03	0.10	#	-0.02	-0.48
200–349	0.14	0.13	0.01	0.06 *	0.14	0.01	0.06 *	0.05
350–499	0.17	0.17	#	0.01	0.17	#	0.01	-0.28
500–749	0.22	0.22	#	0.01	0.22	#	#	-0.60
750–999	0.13	0.14	#	-0.03	0.13	#	-0.04	0.19
1,000 or more	0.24	0.24	#	-0.02	0.24	#	-0.02	-0.06
Total number of students taught								
Less than 15	0.07	0.07	#	0.01	0.07	#	0.01	#
15–19	0.10	0.10	#	0.04 *	0.11	#	0.04 *	0.09
20–24	0.12	0.12	#	#	0.12	#	0.01	3.12
25 or more	0.07	0.07	#	-0.03	0.07	#	-0.01	-0.46
Teacher is not self-contained or team teacher	0.63	0.64	#	-0.01	0.63	-0.01	-0.01	0.52
Teacher's experience								
First year new	0.05	0.05	#	-0.04	0.05	#	0.02	-0.38
Other new	0.12	0.13	-0.01	-0.07 *	0.12	#	-0.02	-0.73
Experienced	0.83	0.82	0.01	0.01 *	0.82	#	#	-0.91

See notes at end of table.

Table F-1.   Unit nonresponse bias of all teachers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Teacher status								
Leaver	0.04	0.04	#	-0.01	0.04	#	0.01	-0.07
Mover	0.07	0.07	#	-0.04 *	0.07	#	-0.01	-0.88
Stayer	0.87	0.86	0.01	0.01 *	0.86	#	0.01 *	-0.49
Unknown	0.03	0.03	-0.01	-0.20 *	0.03	#	-0.15 *	-0.22
Teacher career reflection								
Certainly would become a teacher	0.48	0.48	0.01	0.01	0.48	0.01	0.01	-0.04
Probably would become a teacher	0.25	0.25	#	#	0.25	#	#	4.00
Chances about even for and against	0.15	0.15	#	#	0.15	#	#	-0.73
Probably would not become a teacher	0.09	0.10	-0.01	-0.08	0.09	-0.01	-0.09	0.08
Certainly would not become a teacher	0.03	0.03	#	0.01	0.03	#	0.03	2.85
Type of certification								
Regular or standard state certificate or advanced professional certificate	0.83	0.82	0.01	0.01 *	0.83	#	#	-0.73
Certificate issued after satisfying all requirements except the completion of a probationary period	0.04	0.04	#	-0.08	0.04	#	-0.04	-0.52
Certificate that requires some additional coursework, student teaching, or passage of a test before regular certification can be obtained	0.04	0.04	#	#	0.04	#	0.03	10.46
Certificate issued to persons who must complete a certification program in order to continue teaching	0.02	0.02	#	-0.02	0.02	#	#	-0.96
None of the above in this state	0.01	0.01	#	-0.07	0.01	#	-0.02	-0.74
No certification in this state	0.06	0.06	#	-0.07 *	0.06	#	-0.04	-0.47
Union member								
Yes	0.68	0.67	0.01	0.01 *	0.67	#	0.01	-0.50
No	0.32	0.33	-0.01	-0.03 *	0.33	#	-0.01	-0.50

See notes at end of table.

Table F-1.   Unit nonresponse bias of all teachers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Total years of teaching experience								
Less than 2	0.05	0.06	#	-0.07 *	0.06	#	-0.01	-0.89
2–3	0.11	0.12	-0.01	-0.05	0.12	#	#	-0.93
4–7	0.20	0.20	-0.01	-0.03	0.20	#	#	-0.93
8–12	0.19	0.19	0.01	0.03	0.19	0.01	0.03	0.07
13–20	0.19	0.19	#	-0.01	0.18	-0.01	-0.03	3.63
21 or more	0.26	0.25	0.01	0.05 *	0.25	#	0.01	-0.86
Level of students taught								
Primary	0.39	0.39	#	0.01	0.39	#	0.01	0.01
Middle	0.29	0.29	#	#	0.29	#	#	-0.79
High school	0.31	0.31	#	-0.01	0.31	#	-0.01	0.41
Combined	0.01	0.01	#	-0.04	0.01	#	-0.04	-0.18
Teacher's subject								
Special education	0.11	0.11	#	0.01	0.11	#	#	-0.59
General elementary	0.32	0.32	#	#	0.32	#	#	-0.68
Math	0.10	0.10	#	0.04	0.10	#	0.03	-0.06
Science	0.06	0.06	#	-0.07	0.06	#	-0.06	-0.13
English/language arts	0.10	0.10	#	0.01	0.10	#	0.01	0.23
Social studies	0.05	0.05	#	-0.02	0.05	#	-0.02	-0.38
Vocational/technical	0.04	0.04	#	0.04	0.04	#	0.01	-0.63
Other	0.21	0.22	#	-0.01	0.21	#	-0.01	0.35
Not reported	0.01	0.01	#	0.07	0.01	#	0.09	0.20

\# Rounds to zero.

† Not applicable.

[1] Weighted using the SASS-adjusted TFS base weight, defined as the TFS base weight multiplied by the SASS final weight and divided by the teacher measurement of size.

[2] Weighted using the final TFS sample weight, defined as the product of the SASS-adjusted TFS base weight and the noninterview adjustment factor.

[3] Estimated bias after weight adjustments is the difference between the weighted respondent mean, after adjustment and the weighted sample mean before adjustments.

[4] In order to show differences on a percentage scale, percent relative difference is the difference between the absolute values of the estimated bias after noninterview adjustments and the absolute value of the estimated bias before noninterview adjustments, divided by the absolute value of the estimated bias before noninterview adjustments, multiplied by 100.

[5] Teacher dissatisfaction is the total number of the statements "The stress and disappointments involved in teaching at this school aren't really worth it," "If I could get a higher paying job I'd leave as soon as possible," "I think about transferring to another school," "I don't seem to have as much enthusiasm now as I did when I began teaching," and "I think about staying home from school because I'm just too tired to go" with which the teacher somewhat agrees or strongly agrees.

[6] Number of areas of classroom planning and teaching over which the teacher has no control or minor control is defined as the number of "no control" or "minor control" responses to item 54 on the SASS Teacher Questionnaire.

[7] Teacher's Praxis or other exam is defined as "taken and passed" if the teacher passed any exam listed in item 28 on the SASS Teacher Questionnaire, "taken and not yet passed" if the teacher has not passed any of the exams, but at least one was reported as having been taken, and "not taken" if the teacher has not taken any of the exams.

NOTE: Asterisk (*) indicates bias is statistically significantly at the 0.05 level. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public and Private School Teacher Data Files," 2007–08, and Teacher Follow-up Survey (TFS), "Current and Former Teacher Documentation Data Files," 2008–09.

Table F-2.   Unit nonresponse bias of teacher leavers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Total	1.00	1.00	†	†	1.00	†	†	†
Number of school-related activities outside of normal teaching duties								
0	0.34	0.35	-0.01	-0.02	0.34	-0.01	-0.03	0.25
1	0.32	0.31	0.01	0.02	0.32	0.01	0.02	-0.29
2	0.19	0.20	#	-0.01	0.19	#	-0.02	0.36
3	0.11	0.11	#	0.04	0.12	0.01	0.07	0.66
4	0.02	0.03	#	-0.15	0.03	#	-0.07	-0.52
5	0.01	0.01	#	0.05	0.01	#	0.02	-0.68
Teacher's age								
Less than 27	0.07	0.08	#	-0.05	0.07	#	-0.02	-0.63
27–34	0.25	0.26	-0.01	-0.05	0.26	#	#	-0.93
35–44	0.20	0.20	#	#	0.21	0.01	0.03	7.90
45–54	0.16	0.16	#	#	0.15	#	-0.02	8.51
55 or more	0.33	0.31	0.02	0.05	0.31	#	-0.01	-0.89
Alternative certification								
Yes	0.11	0.13	-0.02	-0.15 *	0.12	-0.02	-0.13 *	-0.10
No	0.89	0.87	0.02	0.02 *	0.88	0.02	0.02 *	-0.10
Percentage of K–12 students in school who were approved for free or reduced-price lunches								
Less than 10	0.09	0.10	#	-0.03	0.09	#	-0.05	0.56
10–24	0.17	0.16	0.01	0.08 *	0.17	0.01	0.06	-0.28
25–49	0.26	0.25	0.01	0.02	0.26	#	0.01	-0.55
50–74	0.21	0.21	#	0.01	0.22	0.01	0.03	0.83
75–89	0.05	0.06	-0.01	-0.17	0.05	-0.01	-0.16	-0.05
90 or more	0.05	0.06	-0.01	-0.17 *	0.05	-0.01	-0.18 *	0.02
School did not participate in free or reduced-price lunch program	0.16	0.16	#	-0.02	0.17	#	0.02	-0.03

See notes at end of table.

Table F-2.   Unit nonresponse bias of teacher leavers before and after noninterview adjustment for selected school and teacher characteristics:2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Main teaching assignment								
Early childhood or general elementary	0.25	0.25	#	0.01	0.25	#	0.01	-0.41
Special education	0.14	0.14	#	0.02	0.14	#	0.01	-0.37
Arts and music	0.03	0.04	#	-0.14	0.03	-0.01	-0.16	0.15
English/language arts	0.15	0.15	#	#	0.15	#	#	1.77
ESL/bilingual education	0.02	0.02	#	-0.12	0.02	#	-0.14	0.11
Foreign languages	0.02	0.02	#	-0.10	0.02	#	-0.04	-0.60
Health/physical education	0.06	0.06	#	0.01	0.06	#	#	-0.95
Mathematics	0.09	0.09	#	-0.05	0.08	-0.01	-0.07	0.38
Natural sciences	0.06	0.07	#	-0.04	0.07	#	0.04	0.06
Social sciences	0.06	0.06	#	-0.01	0.06	#	-0.01	-0.31
Vocational/career/technical education	0.05	0.05	#	0.04	0.05	#	0.02	-0.60
All others	0.07	0.07	0.01	0.09	0.08	0.01	0.11	0.22
Average number of students taught								
Less than 5	0.06	0.06	0.01	0.09	0.06	#	0.07	-0.15
5–9	0.05	0.05	#	0.05	0.05	#	0.04	-0.19
10–24	0.03	0.03	#	0.04	0.03	#	0.02	-0.42
25 or more	0.00	#	#	-0.95	#	#	-1.01	0.03
Teacher is not pull-out/push-in teacher	0.86	0.87	-0.01	-0.01	0.86	#	-0.01	-0.26
Base teaching salary								
Less than $30,000	0.14	0.15	-0.01	-0.04	0.15	#	#	-0.97
$30,000–34,999	0.10	0.11	-0.01	-0.08	0.10	-0.01	-0.07	-0.13
$35,000–39,999	0.13	0.13	-0.01	-0.04	0.13	#	-0.04	-0.09
$40,000–49,999	0.30	0.29	0.01	0.02	0.30	0.01	0.03	0.07
$50,000 or more	0.33	0.32	0.01	0.03	0.32	#	0.01	-0.67
Teacher has been physically attacked by a student								
Yes	0.10	0.10	#	0.03	0.10	#	0.04	0.19
No	0.90	0.90	#	#	0.90	#	#	0.19

See notes at end of table.

Table F-2.   Unit nonresponse bias of teacher leavers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
A student has threatened to injure teacher								
Yes	0.17	0.18	-0.01	-0.05	0.17	-0.01	-0.05	0.03
No	0.83	0.82	0.01	0.01	0.83	0.01	0.01	0.03
School type								
Public charter	0.02	0.03	-0.01	-0.31	0.03	-0.01	-0.26	-0.12
Traditional public	0.77	0.76	0.01	0.01	0.76	#	#	-0.96
Private	0.20	0.21	#	-0.01	0.21	0.01	0.03	3.02
Class organization								
Departmentalized instruction	0.49	0.49	-0.01	-0.01	0.49	#	#	-0.79
Elementary subject specialist	0.09	0.09	#	-0.01	0.09	#	-0.03	0.85
Self-contained class	0.24	0.24	#	-0.01	0.24	#	-0.02	0.86
Team teaching	0.04	0.04	#	0.05	0.05	#	0.06	0.25
Pull-out/push-in instruction	0.14	0.13	0.01	0.05	0.14	#	0.04	-0.26
Number of separate class periods taught								
3 or less	0.10	0.10	0.01	0.05	0.11	0.01	0.08	0.46
4	0.10	0.10	#	-0.01	0.10	#	0.03	1.13
5	0.14	0.14	#	-0.01	0.14	#	-0.01	0.93
6	0.12	0.12	#	-0.02	0.11	#	-0.04	1.19
7 or more	0.11	0.12	-0.01	-0.07	0.11	-0.01	-0.07	0.07
Teacher is not departmentalized	0.43	0.42	0.01	0.02	0.42	#	0.01	-0.47
Teacher dissatisfaction[5]								
0	0.35	0.34	0.01	0.01	0.35	0.01	0.02	0.63
1	0.25	0.24	0.01	0.03	0.24	#	0.02	-0.33
2	0.16	0.16	#	0.02	0.17	#	0.03	0.38
3	0.12	0.12	#	-0.04	0.12	-0.01	-0.05	0.27
4	0.08	0.08	#	-0.01	0.08	#	-0.01	0.15
5	0.04	0.06	-0.01	-0.25 *	0.04	-0.01	-0.27 *	0.08

See notes at end of table.

Table F-2.   **Unit nonresponse bias of teacher leavers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued**

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Teacher participated in professional development activities								
Yes	0.94	0.94	#	#	0.94	#	#	-0.55
No	0.06	0.06	#	-0.05	0.06	#	-0.02	-0.55
Teacher's evaluation of the usefulness of professional development activities								
Not useful	0.01	0.01	#	-0.06	0.01	#	0.02	-0.67
Somewhat useful	0.17	0.17	#	#	0.17	#	-0.03	4.46
Useful	0.40	0.40	#	#	0.39	#	-0.01	4.72
Very useful	0.34	0.33	0.01	0.02	0.34	0.01	0.03	0.76
Teacher did not participate in professional development activities	0.08	0.08	#	-0.04	0.08	#	-0.02	-0.59
Teacher's detailed race/ethnicity								
Hispanic, of any race	0.05	0.06	-0.01	-0.10	0.06	#	0.01	-0.90
Non-Hispanic, American Indian/Alaska Native	#	0.01	#	-0.41	#	#	-0.35	-0.10
Non-Hispanic, Asian/Pacific Islander	0.02	0.01	#	0.05	0.02	#	0.12	1.72
Non-Hispanic, Black	0.07	0.08	-0.01	-0.17	0.08	#	-0.01	-0.90
Non-Hispanic, Two or more races	0.01	0.01	#	-0.08	0.01	#	0.01	-0.83
Non-Hispanic, White	0.85	0.83	0.02	0.02 *	0.83	#	#	-0.99
Teacher's highest degree earned								
Associate's degree or no college degree	0.03	0.03	#	-0.02	0.03	#	#	-0.99
Bachelor's degree	0.46	0.47	-0.01	-0.02	0.47	#	-0.01	-0.75
Master's degree	0.43	0.42	0.01	0.02	0.42	#	#	-0.88
Education specialist or Certificate of Advanced Graduate Studies	0.06	0.06	#	0.05	0.06	#	0.03	-0.41
Doctorate or professional degree	0.02	0.02	#	-0.02	0.02	#	-0.02	-0.18

See notes at end of table.

Table F-2.   Unit nonresponse bias of teacher leavers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Highly Qualified Teacher								
Yes	0.67	0.67	0.01	0.01	0.66	#	#	-0.79
No	0.12	0.13	-0.01	-0.05	0.12	-0.01	-0.04	-0.12
Private school teacher	0.20	0.21	#	-0.01	0.21	0.01	0.03	3.02
Total hours per week spent on all school-related activities								
Less than 40	0.12	0.12	#	#	0.12	#	-0.01	0.95
40–44	0.10	0.10	#	-0.02	0.10	#	-0.03	0.81
45–54	0.46	0.45	0.01	0.02	0.46	0.01	0.03	0.24
55–64	0.23	0.23	#	-0.01	0.23	#	#	-0.12
65 or more	0.10	0.10	-0.01	-0.09	0.10	-0.01	-0.10	0.14
Total hours per week spent on classroom instruction								
Less than 21	0.21	0.20	0.01	0.05	0.22	0.02	0.07	0.46
21–25	0.14	0.14	#	#	0.15	#	0.02	7.77
26–29	0.12	0.11	0.01	0.05	0.11	#	0.02	-0.68
30–35	0.45	0.46	-0.01	-0.02	0.45	-0.02	-0.03	0.52
36 or more	0.08	0.09	-0.01	-0.07	0.08	#	-0.06	-0.24
Teacher participated in induction program in first year of teaching								
Yes	0.16	0.17	-0.01	-0.04	0.17	#	-0.03	-0.25
No	0.15	0.15	#	-0.01	0.16	0.01	0.07	5.32
Teacher has more than 3 years of teaching experience	0.69	0.68	0.01	0.01	0.68	-0.01	-0.01	-0.21

See notes at end of table.

Table F-2.   Unit nonresponse bias of teacher leavers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Teacher plans on leaving the profession early								
Yes	0.23	0.21	0.01	0.05	0.23	0.01	0.06 *	0.31
No	0.53	0.55	-0.01	-0.03	0.52	-0.02	-0.04 *	0.48
Undecided	0.24	0.24	#	0.01	0.25	0.01	0.03	1.06
Community type								
City	0.31	0.33	-0.02	-0.06 *	0.31	-0.01	-0.04	-0.39
Suburb	0.35	0.33	0.02	0.05 *	0.35	0.02	0.05	-0.03
Town	0.11	0.11	#	-0.02	0.11	#	-0.04	1.13
Rural	0.23	0.23	#	0.02	0.23	#	#	-0.94
Main activity last school year								
Teaching at this school	0.72	0.71	0.01	0.02	0.71	#	0.01	-0.66
Teaching at another school	0.11	0.12	-0.01	-0.11	0.11	-0.01	-0.10	-0.04
Other	0.17	0.17	#	#	0.17	0.01	0.04	8.48
Teacher's race/ethnicity								
White, non-Hispanic	0.85	0.83	0.02	0.02 *	0.83	#	#	-0.99
All other race/ethnicities	0.15	0.17	-0.02	-0.12 *	0.17	#	#	-0.99
National Board for Professional Teaching Standards certification								
Yes	0.16	0.17	-0.01	-0.04	0.16	-0.01	-0.05	0.24
No	0.84	0.83	0.01	0.01	0.84	0.01	0.01	0.24

See notes at end of table.

Table F-2.   Unit nonresponse bias of teacher leavers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Number of areas of classroom planning and teaching over which the teacher has no control or minor control[6]								
0	0.46	0.45	0.01	0.02	0.46	0.01	0.01	-0.26
1	0.26	0.25	0.01	0.05	0.27	0.02	0.06 *	0.25
2	0.18	0.19	-0.01	-0.06	0.18	-0.01	-0.05	-0.15
3	0.06	0.07	-0.01	-0.12	0.06	-0.01	-0.15	0.25
4	0.02	0.02	#	-0.09	0.02	#	-0.12	0.31
5	0.01	0.01	#	-0.21	0.01	#	-0.23	0.10
6	#	#	#	-0.06	#	#	-0.03	-0.46
Amount of own money teacher spent on classroom supplies without reimbursement								
Less than $50	0.15	0.16	-0.01	-0.08 *	0.15	-0.01	-0.06	-0.25
$50–124	0.23	0.22	#	0.02	0.23	#	0.01	-0.29
$125–249	0.17	0.16	0.01	0.05	0.17	0.01	0.04	-0.20
$250–399	0.18	0.18	0.01	0.04	0.18	0.01	0.03	-0.19
$400–749	0.17	0.17	-0.01	-0.03	0.17	#	-0.01	-0.56
$750 or more	0.10	0.10	#	-0.02	0.10	#	-0.04	1.09
Teacher's Praxis or other exam results[7]								
Taken and passed	0.63	0.65	-0.01	-0.02	0.64	-0.01	-0.01	-0.33
Taken and not yet passed	#	#	#	-0.45	#	#	-0.37	-0.13
Not taken	0.36	0.35	0.02	0.04	0.36	0.01	0.03	-0.31

See notes at end of table.

Table F-2.   Unit nonresponse bias of teacher leavers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Percentage of teacher's students enrolled in an Individualized Education Program (IEP)								
Less than 2	0.17	0.17	#	-0.02	0.17	#	-0.01	-0.11
2–4	0.09	0.09	#	-0.05	0.09	-0.01	-0.07	0.25
5–9	0.18	0.19	#	-0.02	0.19	#	0.01	-0.17
10–24	0.19	0.19	#	0.01	0.19	#	-0.01	0.44
25–74	0.07	0.06	#	0.07	0.07	#	0.06	-0.07
75 or more	0.03	0.03	#	-0.13	0.03	#	-0.06	-0.50
Teacher is not departmentalized or self-contained	0.27	0.27	0.01	0.03	0.27	0.01	0.02	-0.31
Percentage of teacher's students who are of limited-English proficiency (LEP)								
Less than 2	0.50	0.50	#	0.01	0.50	#	0.01	-0.19
2–4	0.06	0.06	#	-0.06	0.06	#	-0.07	0.15
5–9	0.06	0.06	#	-0.01	0.06	#	0.06	3.55
10–24	0.07	0.07	#	-0.06	0.07	-0.01	-0.08	0.30
25–74	0.03	0.03	#	-0.05	0.03	#	-0.03	-0.30
75 or more	0.01	0.02	#	-0.17	0.01	#	-0.16	-0.02
Teacher is not departmentalized or self-contained	0.27	0.27	0.01	0.03	0.27	0.01	0.02	-0.31
Teaching position								
Regular full-time teacher	0.77	0.78	-0.01	-0.02	0.77	-0.01	-0.02 *	0.08
All others	0.23	0.22	0.01	0.06	0.23	0.01	0.06 *	0.08
Region								
Northeast	0.22	0.21	0.01	0.04	0.22	0.01	0.04	0.12
Midwest	0.20	0.19	0.01	0.04	0.20	0.01	0.04	-0.14
South	0.40	0.42	-0.02	-0.05 *	0.40	-0.02	-0.05 *	-0.02
West	0.17	0.17	#	0.01	0.17	#	0.01	-0.06

See notes at end of table.

Table F-2.   Unit nonresponse bias of teacher leavers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
School level								
Elementary	0.46	0.45	0.01	0.03	0.46	0.01	0.02	-0.26
Middle	0.21	0.23	-0.01	-0.07	0.21	-0.02	-0.09 *	0.26
Secondary	0.32	0.33	#	#	0.33	0.01	0.02	13.18
Teacher's sex								
Male	0.22	0.24	-0.02	-0.09 *	0.22	-0.02	-0.09 *	-0.04
Female	0.78	0.76	0.02	0.03 *	0.78	0.02	0.03 *	-0.04
School enrollment								
Less than 200	0.16	0.16	#	-0.03	0.17	#	0.03	-0.01
200–349	0.14	0.13	#	0.02	0.13	#	0.01	-0.66
350–499	0.18	0.18	0.01	0.04	0.18	#	0.01	-0.65
500–749	0.14	0.15	-0.01	-0.08	0.14	-0.01	-0.10	0.20
750–999	0.15	0.15	#	0.03	0.15	#	#	-0.93
1,000 or more	0.23	0.23	#	0.01	0.23	#	0.02	2.52
Total number of students taught								
Less than 15	0.06	0.06	#	-0.03	0.06	#	-0.01	-0.56
15–19	0.08	0.07	#	0.03	0.08	#	0.02	-0.07
20–24	0.08	0.08	#	-0.01	0.08	#	-0.03	1.88
25 or more	0.07	0.07	#	0.01	0.07	#	#	-0.75
Teacher is not self-contained or team teacher	0.71	0.71	#	#	0.72	#	#	13.60
Teacher's experience								
First year new	0.07	0.08	-0.01	-0.08 *	0.07	#	-0.03	-0.59
Other new	0.15	0.16	#	-0.01	0.16	#	0.02	0.45
Experienced	0.77	0.77	0.01	0.01	0.77	#	#	-0.93

See notes at end of table.

Table F-2.   Unit nonresponse bias of teacher leavers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Teacher status								
Leaver	0.41	0.40	0.01	0.02	0.40	#	#	-0.90
Mover	0.10	0.09	0.01	0.12 *	0.10	0.01	0.14 *	0.21
Stayer	0.34	0.29	0.05	0.15 *	0.35	0.06	0.16 *	0.08
Unknown	0.15	0.22	-0.07	-0.49 *	0.15	-0.07	-0.48 *	-0.02
Teacher career reflection								
Certainly would become a teacher	0.36	0.37	-0.01	-0.03	0.36	-0.01	-0.03	-0.07
Probably would become a teacher	0.28	0.27	0.01	0.03	0.28	0.01	0.03	0.03
Chances about even for and against	0.17	0.18	#	-0.03	0.17	-0.01	-0.04	0.34
Probably would not become a teacher	0.14	0.13	0.01	0.05	0.14	0.01	0.04	-0.04
Certainly would not become a teacher	0.05	0.05	#	0.03	0.05	#	0.05	0.74
Type of certification								
Regular or standard state certificate or advanced professional certificate	0.75	0.74	0.01	0.01	0.74	#	-0.01	-0.44
Certificate issued after satisfying all requirements except the completion of a probationary period	0.03	0.03	#	0.07	0.03	0.01	0.21	2.82
Certificate that requires some additional coursework, student teaching, or passage of a test before regular certification can be obtained	0.04	0.05	-0.01	-0.18 *	0.04	-0.01	-0.18	0.02
Certificate issued to persons who must complete a certification program in order to continue teaching	0.03	0.03	#	0.04	0.03	#	0.05	0.04
None of the above in this state	0.03	0.03	#	#	0.03	#	0.06	23.33
No certification in this state	0.12	0.13	#	-0.04	0.13	#	0.01	-0.66
Union member								
Yes	0.62	0.60	0.02	0.04 *	0.61	0.01	0.02	-0.41
No	0.38	0.40	-0.02	-0.06 *	0.39	-0.01	-0.03	-0.41

See notes at end of table.

Table F-2.   Unit nonresponse bias of teacher leavers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Total years of teaching experience								
Less than 2	0.09	0.10	#	-0.04	0.10	#	0.01	-0.75
2–3	0.13	0.13	#	-0.03	0.13	#	#	-0.86
4–7	0.20	0.21	-0.01	-0.04	0.21	#	0.01	-0.84
8–12	0.17	0.17	#	#	0.17	#	#	-0.59
13–20	0.10	0.10	#	0.01	0.10	#	-0.01	0.79
21 or more	0.31	0.30	0.02	0.05	0.29	#	#	-0.94
Level of students taught								
Primary	0.34	0.33	0.01	0.04	0.34	0.01	0.03	-0.20
Middle	0.31	0.32	-0.01	-0.03	0.30	-0.02	-0.05 *	0.53
High school	0.33	0.33	#	-0.01	0.34	#	0.01	-0.09
Combined	0.02	0.02	#	0.09	0.02	#	0.10	0.12
Teacher's subject								
Special education	0.15	0.15	#	0.02	0.15	#	0.02	0.28
General elementary	0.23	0.23	#	0.01	0.23	#	#	-0.65
Math	0.09	0.09	-0.01	-0.06	0.09	-0.01	-0.08	0.27
Science	0.06	0.07	#	-0.08	0.07	#	#	-0.94
English/language arts	0.10	0.10	#	-0.01	0.10	#	-0.02	0.88
Social studies	0.04	0.04	#	#	0.04	#	#	-0.25
Vocational/technical	0.02	0.02	#	-0.14	0.02	#	-0.16	0.13
Other	0.29	0.28	0.01	0.03	0.29	0.01	0.03	-0.03
Not reported	0.01	0.01	#	0.05	0.01	#	0.09	0.93

\# Rounds to zero.

† Not applicable.

[1] Weighted using the SASS-adjusted TFS base weight, defined as the TFS base weight multiplied by the SASS final weight and divided by the teacher measurement of size.

[2] Weighted using the final TFS sample weight, defined as the product of the SASS-adjusted TFS base weight and the noninterview adjustment factor.

[3] Estimated bias after weight adjustments is the difference between the weighted respondent mean, after adjustment and the weighted sample mean before adjustments.

[4] In order to show differences on a percentage scale, percent relative difference is the difference between the absolute values of the estimated bias after noninterview adjustments and the absolute value of the estimated bias before noninterview adjustments, divided by the absolute value of the estimated bias before noninterview adjustments, multiplied by 100.

[5] Teacher dissatisfaction is the total number of the statements "The stress and disappointments involved in teaching at this school aren't really worth it," "If I could get a higher paying job I'd leave as soon as possible," "I think about transferring to another school," "I don't seem to have as much enthusiasm now as I did when I began teaching," and "I think about staying home from school because I'm just too tired to go" with which the teacher somewhat agrees or strongly agrees.

[6] Number of areas of classroom planning and teaching over which the teacher has no control or minor control is defined as the number of "no control" or "minor control" responses to item 54 on the SASS Teacher Questionnaire.

[7] Teacher's Praxis or other exam is defined as "taken and passed" if the teacher passed any exam listed in item 28 on the SASS Teacher Questionnaire, "taken and not yet passed" if the teacher has not passed any of the exams, but at least one was reported as having been taken, and "not taken" if the teacher has not taken any of the exams.

NOTE: Asterisk (*) indicates bias is statistically significantly at the 0.05 level. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public and Private School Teacher Data Files," 2007–08, and Teacher Follow-up Survey (TFS), "Former Teacher Documentation Data File," 2008–09.

Table F-3.   Unit nonresponse bias of teacher movers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Total	1.00	1.00	†	†	1.00	†	†	†
Number of school-related activities outside of normal teaching duties								
0	0.25	0.26	-0.01	-0.04	0.25	-0.01	-0.03	-0.32
1	0.42	0.41	0.01	0.02	0.42	#	0.01	-0.27
2	0.19	0.19	#	#	0.19	#	-0.02	15.13
3	0.12	0.11	0.01	0.05	0.12	0.01	0.08	0.48
4	0.02	0.03	#	-0.09	0.02	#	-0.14	0.42
5	#	#	#	-0.01	#	#	#	-1.00
Teacher's age								
Less than 27	0.15	0.15	#	0.02	0.15	0.01	0.04	0.97
27–34	0.32	0.33	-0.02	-0.05 *	0.32	-0.01	-0.04	-0.22
35–44	0.21	0.22	-0.01	-0.04	0.21	-0.01	-0.03	-0.32
45–54	0.23	0.21	0.02	0.09 *	0.22	0.02	0.07 *	-0.19
55 or more	0.10	0.10	#	#	0.09	-0.01	-0.06	19.39
Alternative certification								
Yes	0.16	0.18	-0.02	-0.10 *	0.17	-0.01	-0.05	-0.46
No	0.84	0.82	0.02	0.02 *	0.83	0.01	0.01	-0.46
Percentage of K–12 students in school who were approved for free or reduced-price lunches								
Less than 10	0.09	0.09	#	0.01	0.08	#	-0.04	3.74
10–24	0.14	0.13	#	0.03	0.14	#	0.01	-0.54
25–49	0.27	0.27	#	#	0.27	-0.01	-0.02	160.25
50–74	0.20	0.20	#	#	0.20	#	#	-0.76
75–89	0.11	0.11	#	0.03	0.12	0.01	0.06	0.90
90 or more	0.12	0.12	#	-0.03	0.12	0.01	0.04	0.69
School did not participate in free or reduced-price lunch program	0.07	0.08	-0.01	-0.09	0.07	#	-0.06	-0.28

See notes at end of table.

Table F-3.   **Unit nonresponse bias of teacher movers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued**

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Main teaching assignment								
Early childhood or general elementary	0.33	0.33	#	#	0.33	#	#	-0.71
Special education	0.14	0.14	#	-0.01	0.14	#	-0.01	-0.06
Arts and music	0.05	0.05	#	0.02	0.06	#	0.02	0.47
English/language arts	0.12	0.11	#	0.04	0.12	0.01	0.05	0.17
ESL/bilingual education	0.02	0.02	#	0.08	0.03	#	0.15	1.02
Foreign languages	0.02	0.02	#	-0.10	0.02	#	-0.11	0.13
Health/physical education	0.04	0.05	#	-0.08	0.04	#	-0.09	0.11
Mathematics	0.07	0.07	#	0.03	0.07	#	0.05	1.08
Natural sciences	0.06	0.06	#	-0.07	0.06	#	-0.09	0.19
Social sciences	0.08	0.08	#	-0.03	0.07	#	-0.03	0.10
Vocational/career/technical education	0.03	0.03	#	0.04	0.03	#	#	-0.91
All others	0.04	0.04	#	0.04	0.04	#	-0.02	-0.61
Average number of students taught								
Less than 5	0.02	0.02	#	0.11 *	0.02	#	0.08	-0.34
5–9	0.04	0.04	#	0.08	0.04	#	0.05	-0.46
10–24	0.03	0.03	#	-0.14	0.02	#	-0.17	0.17
25 or more	0.01	0.01	#	0.15 *	0.01	#	0.08 *	-0.50
Teacher is not pull-out/push-in teacher	0.90	0.91	#	#	0.91	#	#	-0.92
Base teaching salary								
Less than $30,000	0.07	0.09	-0.01	-0.19 *	0.08	-0.01	-0.16 *	-0.12
$30,000–34,999	0.14	0.14	#	#	0.14	#	0.01	1.16
$35,000–39,999	0.16	0.16	#	-0.03	0.16	#	-0.01	-0.74
$40,000–49,999	0.34	0.34	#	0.01	0.34	#	0.01	0.09
$50,000 or more	0.29	0.27	0.02	0.06 *	0.28	0.01	0.03	-0.41
Teacher has been physically attacked by a student								
Yes	0.10	0.09	#	0.04	0.10	#	0.04	0.23
No	0.90	0.91	#	#	0.90	#	#	0.23

See notes at end of table.

Table F-3.   Unit nonresponse bias of teacher movers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
A student has threatened to injure teacher								
Yes	0.18	0.18	#	-0.01	0.18	#	-0.01	0.19
No	0.82	0.82	#	#	0.82	#	#	0.19
School type								
Public charter	0.03	0.03	#	-0.02	0.03	#	0.02	-0.19
Traditional public	0.89	0.88	0.01	0.01 *	0.89	0.01	0.01	-0.35
Private	0.08	0.09	-0.01	-0.12 *	0.08	-0.01	-0.08	-0.26
Class organization								
Departmentalized instruction	0.46	0.46	#	0.01	0.46	#	0.01	0.05
Elementary subject specialist	0.06	0.06	#	-0.06	0.06	#	-0.07	0.17
Self-contained class	0.35	0.35	#	-0.01	0.35	#	#	-0.08
Team teaching	0.04	0.04	#	-0.05	0.04	#	-0.03	-0.29
Pull-out/push-in instruction	0.10	0.09	#	0.04	0.09	#	#	-0.92
Number of separate class periods taught								
3 or less	0.09	0.09	#	-0.03	0.09	#	-0.01	-0.70
4	0.08	0.09	-0.01	-0.07	0.08	#	-0.05	-0.25
5	0.13	0.13	#	#	0.13	#	-0.01	2.24
6	0.14	0.13	0.01	0.06	0.14	0.01	0.06	-0.05
7 or more	0.08	0.08	#	-0.02	0.08	#	-0.03	0.53
Teacher is not departmentalized	0.48	0.48	#	#	0.48	#	#	-0.23
Teacher dissatisfaction[5]								
0	0.27	0.27	#	-0.01	0.27	#	-0.01	-0.14
1	0.22	0.23	-0.01	-0.03	0.22	-0.01	-0.02	-0.21
2	0.21	0.20	#	0.02	0.21	0.01	0.03	0.10
3	0.15	0.14	0.01	0.04	0.15	#	0.03	-0.29
4	0.09	0.09	#	0.02	0.09	#	0.01	-0.50
5	0.06	0.06	#	-0.03	0.06	#	-0.03	-0.11

See notes at end of table.

Table F-3. **Unit nonresponse bias of teacher movers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued**

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Teacher participated in professional development activities								
Yes	0.98	0.98	#	#	0.98	#	#	-0.49
No	0.02	0.02	#	-0.16	0.02	#	-0.08	-0.49
Teacher's evaluation of the usefulness of professional development activities								
Not useful	0.01	0.01	#	-0.15	0.01	#	-0.21	0.36
Somewhat useful	0.20	0.20	#	-0.02	0.19	-0.01	-0.03	1.05
Useful	0.39	0.39	#	0.01	0.39	#	#	-0.72
Very useful	0.38	0.37	0.01	0.02	0.38	0.01	0.04	0.80
Teacher did not participate in professional development activities	0.02	0.03	-0.01	-0.22 *	0.02	#	-0.14	-0.30
Teacher's detailed race/ethnicity								
Hispanic, of any race	0.09	0.10	-0.01	-0.11	0.10	#	0.03	-0.64
Non-Hispanic, American Indian/Alaska Native	#	#	#	-0.04	#	#	0.11	2.42
Non-Hispanic, Asian/Pacific Islander	0.02	0.02	#	0.03	0.02	#	0.03	-0.02
Non-Hispanic, Black	0.08	0.09	-0.01	-0.14 *	0.09	#	-0.01	-0.91
Non-Hispanic, Two or more races	0.01	0.01	#	-0.25	0.01	#	-0.07	-0.67
Non-Hispanic, White	0.80	0.78	0.02	0.03 *	0.78	#	#	-0.86
Teacher's highest degree earned								
Associate's degree or no college degree	#	#	#	-0.43	#	#	-0.37	-0.10
Bachelor's degree	0.53	0.54	-0.02	-0.03	0.54	#	#	-0.97
Master's degree	0.39	0.38	0.01	0.02	0.37	-0.01	-0.02	-0.24
Education specialist or Certificate of Advanced Graduate Studies	0.07	0.07	0.01	0.10 *	0.07	0.01	0.11	0.07
Doctorate or professional degree	0.01	0.01	#	0.15 *	0.01	#	0.14	-0.07

See notes at end of table.

Table F-3.   Unit nonresponse bias of teacher movers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Highly Qualified Teacher								
Yes	0.83	0.82	0.02	0.02 *	0.83	0.02	0.02 *	-0.10
No	0.09	0.09	-0.01	-0.09	0.09	-0.01	-0.10	0.08
Private school teacher	0.08	0.09	-0.01	-0.12 *	0.08	-0.01	-0.08	-0.26
Total hours per week spent on all school-related activities								
Less than 40	0.05	0.05	#	-0.02	0.05	#	0.01	-0.61
40–44	0.08	0.09	#	-0.05	0.08	-0.01	-0.07	0.40
45–54	0.48	0.47	0.01	0.02	0.49	0.01	0.02	0.25
55–64	0.29	0.29	#	-0.01	0.28	#	-0.02	0.73
65 or more	0.10	0.10	#	-0.01	0.10	#	-0.01	0.20
Total hours per week spent on classroom instruction classroom instruction								
Less than 21	0.10	0.10	-0.01	-0.07	0.10	-0.01	-0.09	0.29
21–25	0.16	0.16	#	#	0.16	#	-0.01	2.35
26–29	0.09	0.09	#	-0.02	0.09	#	-0.04	0.70
30–35	0.56	0.54	0.02	0.03	0.56	0.02	0.03 *	0.08
36 or more	0.09	0.10	-0.01	-0.09	0.10	#	-0.05	-0.45
Teacher participated in induction program in first year of teaching								
Yes	0.28	0.29	#	-0.02	0.29	#	#	-0.78
No	0.14	0.15	-0.01	-0.05	0.14	#	-0.03	-0.46
Teacher has more than 3 years of teaching experience	0.58	0.57	0.01	0.02	0.57	#	0.01	-0.74

See notes at end of table.

Table F-3.   **Unit nonresponse bias of teacher movers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued**

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Teacher plans on leaving the profession early								
Yes	0.13	0.12	0.01	0.04	0.13	0.01	0.06	0.44
No	0.70	0.70	-0.01	-0.01	0.69	-0.01	-0.02	1.01
Undecided	0.17	0.17	#	#	0.18	#	0.03	4.88
Community type								
City	0.30	0.30	#	#	0.31	0.01	0.03	8.40
Suburb	0.33	0.34	-0.01	-0.02	0.33	-0.01	-0.04	0.61
Town	0.13	0.13	#	#	0.13	#	-0.02	23.33
Rural	0.23	0.23	0.01	0.03	0.23	0.01	0.02	-0.21
Main activity last school year								
Teaching at this school	0.70	0.70	#	#	0.70	#	#	-0.37
Teaching at another school	0.17	0.17	#	0.01	0.17	#	0.01	0.36
Other	0.13	0.13	#	-0.03	0.13	#	#	-0.92
Teacher's race/ethnicity								
White, non-Hispanic	0.80	0.78	0.02	0.03 *	0.78	#	#	-0.86
All other race/ethnicities	0.20	0.22	-0.02	-0.11 *	0.22	#	0.01	-0.86
National Board for Professional Teaching Standards certification								
Yes	0.21	0.22	-0.01	-0.07	0.22	-0.01	-0.04	-0.40
No	0.79	0.78	0.01	0.02	0.78	0.01	0.01	-0.40

See notes at end of table.

Table F-3.   Unit nonresponse bias of teacher movers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Number of areas of classroom planning and teaching over which the teacher has no control or minor control[6]								
0	0.29	0.30	-0.01	-0.02	0.29	-0.01	-0.03	0.07
1	0.26	0.27	#	-0.01	0.26	-0.01	-0.03	1.00
2	0.30	0.29	0.01	0.04	0.30	0.01	0.05 *	0.14
3	0.10	0.10	#	0.03	0.10	0.01	0.05	0.70
4	0.03	0.03	#	-0.12	0.03	#	-0.10	-0.19
5	0.01	0.01	#	-0.17	0.01	#	-0.17	0.03
6	0.01	0.01	#	-0.06	0.01	#	-0.12	0.88
Amount of own money teacher spent on classroom supplies without reimbursement								
Less than $50	0.15	0.15	#	#	0.15	#	0.02	21.17
$50–124	0.15	0.15	-0.01	-0.05	0.14	-0.01	-0.06	0.19
$125–249	0.15	0.15	#	#	0.15	#	0.01	2.20
$250–399	0.19	0.19	#	#	0.19	#	-0.01	1.67
$400–749	0.22	0.23	#	-0.01	0.22	-0.01	-0.03	2.19
$750 or more	0.14	0.14	0.01	0.06	0.15	0.01	0.07	0.25
Teacher's Praxis or other exam results[7]								
Taken and passed	0.84	0.85	-0.01	-0.01	0.84	-0.01	-0.01	-0.19
Taken and not yet passed	#	#	#	-0.03	#	#	0.06	1.15
Not taken	0.16	0.15	0.01	0.04	0.16	#	0.03	-0.25

See notes at end of table.

Table F-3.   Unit nonresponse bias of teacher movers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Percentage of teacher's students enrolled in an Individualized Education Program (IEP)								
Less than 2	0.20	0.20	#	-0.02	0.20	#	0.01	-0.43
2–4	0.08	0.08	#	-0.05	0.08	#	-0.06	0.06
5–9	0.21	0.21	0.01	0.03	0.21	0.01	0.03	-0.15
10–24	0.22	0.21	0.01	0.04	0.21	0.01	0.03	-0.29
25–74	0.06	0.06	-0.01	-0.12	0.06	-0.01	-0.12	-0.05
75 or more	0.05	0.05	#	0.02	0.05	#	0.03	0.87
Teacher is not departmentalized or self-contained	0.19	0.19	#	-0.01	0.18	-0.01	-0.03	2.16
Percentage of teacher's students who are of limited-English proficiency (LEP)								
Less than 2	0.46	0.47	-0.01	-0.02	0.46	-0.01	-0.02	-0.25
2–4	0.09	0.08	0.01	0.09	0.09	#	0.05	-0.42
5–9	0.07	0.07	#	-0.02	0.07	#	-0.03	0.30
10–24	0.10	0.09	0.01	0.08	0.10	0.01	0.09 *	0.26
25–74	0.05	0.06	-0.01	-0.13	0.05	-0.01	-0.16	0.22
75 or more	0.04	0.04	0.01	0.13 *	0.04	0.01	0.21 *	0.88
Teacher is not departmentalized or self-contained	0.19	0.19	#	-0.01	0.18	-0.01	-0.03	2.16
Teaching position								
Regular full-time teacher	0.90	0.89	#	#	0.90	0.01	0.01	0.59
All others	0.10	0.11	#	-0.03	0.10	-0.01	-0.05	0.59
Region								
Northeast	0.13	0.13	-0.01	-0.05	0.13	#	-0.03	-0.33
Midwest	0.20	0.19	#	0.01	0.19	#	-0.01	0.16
South	0.46	0.45	#	0.01	0.46	0.01	0.02	0.72
West	0.22	0.22	#	-0.01	0.22	#	-0.01	0.59

See notes at end of table.

Table F-3.   Unit nonresponse bias of teacher movers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
School level								
Elementary	0.46	0.45	0.01	0.01	0.45	#	0.01	-0.26
Middle	0.28	0.29	-0.01	-0.04	0.28	-0.01	-0.03	-0.17
Secondary	0.26	0.26	#	0.02	0.26	#	0.02	-0.04
Teacher's sex								
Male	0.23	0.24	-0.01	-0.04	0.23	-0.01	-0.04	-0.04
Female	0.77	0.76	0.01	0.01	0.77	0.01	0.01	-0.04
School enrollment								
Less than 200	0.11	0.12	-0.01	-0.07	0.12	#	0.01	-0.89
200–349	0.15	0.14	#	0.02	0.15	0.01	0.05	1.84
350–499	0.19	0.19	#	#	0.18	#	-0.03	9.73
500–749	0.21	0.21	#	-0.01	0.21	-0.01	-0.03	0.97
750–999	0.14	0.13	0.01	0.04	0.14	#	0.03	-0.38
1,000 or more	0.21	0.21	#	0.01	0.21	#	-0.01	0.74
Total number of students taught								
Less than 15	0.07	0.08	-0.01	-0.11	0.07	#	-0.06	-0.46
15–19	0.11	0.11	#	0.02	0.11	#	0.03	0.43
20–24	0.13	0.13	#	#	0.12	#	-0.02	32.33
25 or more	0.08	0.08	#	0.02	0.08	#	0.06	1.41
Teacher is not self-contained or team teacher	0.61	0.61	#	0.01	0.61	#	#	-0.88
Teacher's experience								
First year new	0.10	0.10	#	-0.03	0.10	#	#	-0.87
Other new	0.20	0.21	-0.01	-0.04	0.20	#	-0.02	-0.43
Experienced	0.70	0.69	0.01	0.02	0.69	#	0.01	-0.63

See notes at end of table.

Table F-3. **Unit nonresponse bias of teacher movers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued**

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Teacher status								
Leaver	0.02	0.02	#	0.05	0.02	#	0.04	-0.22
Mover	0.68	0.72	-0.04	-0.06 *	0.68	-0.04	-0.06 *	-0.01
Stayer	0.14	0.12	0.02	0.15 *	0.14	0.02	0.14 *	-0.09
Unknown	0.16	0.14	0.02	0.12 *	0.16	0.02	0.13 *	0.08
Teacher career reflection								
Certainly would become a teacher	0.43	0.44	-0.01	-0.01	0.43	#	-0.01	-0.46
Probably would become a teacher	0.23	0.23	#	#	0.23	#	-0.02	3.18
Chances about even for and against	0.17	0.17	#	0.01	0.17	#	0.02	0.19
Probably would not become a teacher	0.12	0.12	#	0.02	0.11	#	-0.01	-0.57
Certainly would not become a teacher	0.05	0.04	#	0.05	0.05	0.01	0.10	1.19
Type of certification								
Regular or standard state certificate or advanced professional certificate	0.76	0.75	#	#	0.75	-0.01	-0.01	5.45
Certificate issued after satisfying all requirements except the completion of a probationary period	0.09	0.09	#	0.02	0.09	#	0.01	-0.22
Certificate that requires some additional coursework, student teaching, or passage of a test before regular certification can be obtained	0.05	0.05	#	0.05	0.05	#	0.07	0.42
Certificate issued to persons who must complete a certification program in order to continue teaching	0.05	0.05	#	#	0.05	#	0.06	13.30
None of the above in this state	0.02	0.02	#	-0.03	0.02	#	0.02	-0.29
No certification in this state	0.04	0.05	#	-0.12	0.04	#	-0.07	-0.41
Union member								
Yes	0.65	0.64	0.01	0.01	0.65	0.01	0.01	-0.16
No	0.35	0.36	-0.01	-0.02	0.35	-0.01	-0.02	-0.16

See notes at end of table.

Table F-3.   Unit nonresponse bias of teacher movers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristics	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Total years of teaching experience								
Less than 2	0.11	0.12	-0.01	-0.05	0.12	#	-0.02	-0.67
2–3	0.19	0.19	#	-0.02	0.19	#	-0.01	-0.57
4–7	0.25	0.26	-0.01	-0.04	0.25	-0.01	-0.03	-0.11
8–12	0.16	0.15	#	0.01	0.15	#	-0.01	-0.47
13–20	0.12	0.12	#	0.03	0.12	#	0.03	0.01
21 or more	0.17	0.16	0.01	0.08 *	0.17	0.01	0.06	-0.30
Level of students taught								
Primary	0.40	0.39	#	0.01	0.40	#	0.01	-0.40
Middle	0.33	0.34	-0.01	-0.03	0.33	-0.01	-0.03	-0.10
High school	0.26	0.26	0.01	0.02	0.26	0.01	0.02	-0.15
Combined	0.01	0.01	#	0.07	0.01	#	0.17	1.67
Teacher's subject								
Special education	0.14	0.15	#	-0.03	0.14	#	-0.03	#
General elementary	0.35	0.35	#	#	0.35	#	0.01	4.29
Math	0.08	0.08	#	0.04	0.08	0.01	0.07	0.59
Science	0.06	0.06	#	-0.01	0.06	#	-0.03	1.92
English/language arts	0.08	0.08	#	0.05	0.08	#	0.05	#
Social studies	0.07	0.07	#	-0.05	0.07	#	-0.05	-0.04
Vocational/technical	0.03	0.03	#	0.06	0.03	#	0.01	-0.87
Other	0.18	0.18	#	-0.02	0.18	#	-0.03	0.62
Not reported	#	#	#	0.15 *	0.00	#	0.12 *	-0.21

Rounds to zero.

† Not applicable.

[1] Weighted using the SASS-adjusted TFS base weight, defined as the TFS base weight multiplied by the SASS final weight and divided by the teacher measurement of size.

[2] Weighted using the final TFS sample weight, defined as the product of the SASS-adjusted TFS base weight and the noninterview adjustment factor.

[3] Estimated bias after weight adjustments is the difference between the weighted respondent mean, after adjustment and the weighted sample mean before adjustments.

[4] In order to show differences on a percentage scale, percent relative difference is the difference between the absolute values of the estimated bias after noninterview adjustments and the absolute value of the estimated bias before noninterview adjustments, divided by the absolute value of the estimated bias before noninterview adjustments, multiplied by 100.

[5] Teacher dissatisfaction is the total number of the statements "The stress and disappointments involved in teaching at this school aren't really worth it," "If I could get a higher paying job I'd leave as soon as possible," "I think about transferring to another school," "I don't seem to have as much enthusiasm now as I did when I began teaching," and "I think about staying home from school because I'm just too tired to go" with which the teacher somewhat agrees or strongly agrees.

[6] Number of areas of classroom planning and teaching over which the teacher has no control or minor control is defined as the number of "no control" or "minor control" responses to item 54 on the SASS Teacher Questionnaire.

[7] Teacher's Praxis or other exam is defined as "taken and passed" if the teacher passed any exam listed in item 28 on the SASS Teacher Questionnaire, "taken and not yet passed" if the teacher has not passed any of the exams, but at least one was reported as having been taken, and "not taken" if the teacher has not taken any of the exams.

NOTE: Asterisk (*) indicates bias is statistically significantly at the 0.05 level. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public and Private School Teacher Data Files," 2007–08, and Teacher Follow-up Survey (TFS), "Current Teacher Documentation Data File," 2008–09.

Table F-4.   **Unit nonresponse bias of teacher stayers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09**

Selected school and teacher characteristic	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Total	1.00	1.00	†	†	1.00	†	†	†
Number of school-related activities outside of normal teaching duties								
0	0.22	0.22	#	-0.01	0.22	#	-0.01	0.12
1	0.37	0.37	#	#	0.37	#	#	6.40
2	0.25	0.25	#	-0.01	0.25	#	-0.01	-0.41
3	0.13	0.12	0.01	0.04	0.13	#	0.03	-0.21
4	0.03	0.03	#	-0.05	0.03	#	-0.06	0.17
5	0.01	#	#	0.12 *	0.01	#	0.11 *	-0.02
Teacher's age								
Less than 27	0.06	0.06	#	-0.04	0.06	#	0.04	-0.02
27–34	0.20	0.21	-0.01	-0.06 *	0.21	#	-0.01	-0.88
35–44	0.27	0.27	#	-0.01	0.27	#	#	-0.85
45–54	0.23	0.22	#	0.01	0.22	-0.01	-0.03	0.85
55 or more	0.25	0.24	0.02	0.06 *	0.24	0.01	0.02	-0.64
Alternative certification								
Yes	0.12	0.13	#	-0.04	0.12	#	-0.02	-0.39
No	0.88	0.87	#	0.01	0.88	#	#	-0.39
Percentage of K–12 students in school who were approved for free or reduced-price lunches								
Less than 10	0.14	0.14	#	-0.03	0.13	#	-0.04	0.32
10–24	0.16	0.17	-0.01	-0.05	0.16	-0.01	-0.06	0.19
25–49	0.24	0.23	#	0.01	0.23	#	#	-0.75
50–74	0.19	0.19	#	0.01	0.19	#	0.02	0.62
75–89	0.10	0.09	0.01	0.07 *	0.10	0.01	0.08 *	0.21
90 or more	0.07	0.07	#	-0.01	0.07	#	#	-0.57
School did not participate in free or reduced-price lunch program	0.10	0.10	#	#	0.10	#	0.02	2.51

See notes at end of table.

Table F-4.   Unit nonresponse bias of teacher stayers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristic	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Main teaching assignment								
Early childhood or general elementary	0.34	0.34	#	0.01	0.34	#	0.01	0.83
Special education	0.10	0.10	#	0.02	0.10	#	0.01	-0.23
Arts and music	0.06	0.06	#	-0.02	0.06	#	-0.02	0.54
English/language arts	0.12	0.11	#	0.01	0.12	#	0.01	0.85
ESL/bilingual education	0.01	0.01	#	0.03	0.01	#	0.01	-0.59
Foreign languages	0.03	0.03	#	0.04	0.03	#	0.03	-0.17
Health/physical education	0.05	0.06	#	-0.04	0.05	#	-0.03	-0.18
Mathematics	0.09	0.08	#	0.04	0.09	#	0.03	-0.27
Natural sciences	0.06	0.06	-0.01	-0.09	0.06	#	-0.08	-0.06
Social sciences	0.06	0.06	#	-0.01	0.06	#	#	-0.85
Vocational/career/technical education	0.05	0.05	#	-0.01	0.05	#	-0.03	2.72
All others	0.03	0.03	#	-0.02	0.03	#	-0.02	0.02
Average number of students taught								
Less than 5	0.02	0.02	#	-0.05	0.02	#	-0.08	0.63
5–9	0.03	0.03	#	0.11 *	0.03	#	0.10 *	-0.07
10–24	0.02	0.02	#	-0.02	0.02	#	-0.01	-0.28
25 or more	0.01	0.01	#	-0.12	0.01	#	-0.13	0.08
Teacher is not pull-out/push-in teacher	0.93	0.93	#	#	0.93	#	#	-0.85
Base teaching salary								
Less than $30,000	0.09	0.09	#	0.02	0.10	#	0.04	1.06
$30,000–34,999	0.10	0.09	#	0.02	0.10	0.01	0.06 *	2.55
$35,000–39,999	0.13	0.13	#	-0.01	0.13	#	0.01	-0.45
$40,000–49,999	0.32	0.32	#	#	0.32	#	#	-0.06
$50,000 or more	0.37	0.37	#	#	0.36	-0.01	-0.03	8.44
Teacher has been physically attacked by a student								
Yes	0.09	0.09	#	-0.03	0.09	#	-0.03	0.11
No	0.91	0.91	#	#	0.91	#	#	0.11

See notes at end of table.

Table F-4.   Unit nonresponse bias of teacher stayers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristic	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
A student has threatened to injure teacher								
Yes	0.17	0.17	#	0.02	0.17	#	0.01	-0.50
No	0.83	0.83	#	#	0.83	#	#	-0.50
School type								
Public charter	0.02	0.02	#	-0.02	0.02	#	#	-0.84
Traditional public	0.87	0.86	#	#	0.86	#	#	-0.84
Private	0.12	0.12	#	-0.01	0.12	#	#	-0.78
Class organization								
Departmentalized instruction	0.49	0.50	-0.01	-0.02	0.49	-0.01	-0.02	0.12
Elementary subject specialist	0.06	0.06	#	0.06	0.06	#	0.05	-0.07
Self-contained class	0.33	0.32	0.01	0.02	0.33	0.01	0.02	0.25
Team teaching	0.04	0.05	#	-0.05	0.04	#	-0.03	-0.29
Pull-out/push-in instruction	0.07	0.07	#	0.01	0.07	#	#	-0.85
Number of separate class periods taught								
3 or less	0.08	0.08	#	0.03	0.08	#	0.03	0.06
4	0.10	0.10	#	-0.03	0.10	#	-0.04	0.31
5	0.16	0.16	#	-0.01	0.16	#	-0.01	-0.15
6	0.12	0.13	#	-0.04	0.12	#	-0.04	-0.02
7 or more	0.09	0.09	#	0.02	0.09	#	0.01	-0.47
Teacher is not departmentalized	0.44	0.44	#	0.01	0.45	0.01	0.01	0.26
Teacher dissatisfaction[5]								
0	0.43	0.43	#	-0.01	0.43	#	#	-0.52
1	0.26	0.26	#	-0.01	0.26	#	-0.01	0.46
2	0.15	0.14	0.01	0.06 *	0.15	0.01	0.06 *	#
3	0.09	0.09	#	0.02	0.09	#	0.01	-0.27
4	0.05	0.05	#	-0.01	0.05	#	-0.01	1.04
5	0.03	0.03	#	-0.18	0.03	-0.01	-0.19	0.07

See notes at end of table.

Table F-4.   Unit nonresponse bias of teacher stayers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristic	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Teacher participated in professional development activities								
Yes	0.98	0.98	#	#	0.98	#	#	-0.19
No	0.02	0.02	#	-0.12	0.02	#	-0.09	-0.19
Teacher's evaluation of the usefulness of professional development activities								
Not useful	0.01	0.01	#	-0.40	0.01	#	-0.42	0.05
Somewhat useful	0.16	0.16	#	#	0.16	#	#	-0.16
Useful	0.42	0.42	#	#	0.42	#	#	0.64
Very useful	0.38	0.38	0.01	0.02	0.38	#	0.01	-0.25
Teacher did not participate in professional development activities	0.03	0.03	#	-0.11	0.03	#	-0.10	-0.09
Teacher's detailed race/ethnicity								
Hispanic, of any race	0.07	0.07	#	-0.02	0.07	#	#	-0.90
Non-Hispanic, American Indian/Alaska Native	#	#	#	0.11	#	#	0.09	-0.22
Non-Hispanic, Asian/Pacific Islander	0.01	0.01	#	-0.14	0.01	#	-0.15	0.04
Non-Hispanic, Black	0.06	0.06	#	-0.04	0.07	#	0.04	0.20
Non-Hispanic, Two or more races	0.01	0.01	#	0.08	0.01	#	0.08	-0.05
Non-Hispanic, White	0.84	0.84	#	#	0.84	#	#	-0.59
Teacher's highest degree earned								
Associate's degree or no college degree	0.01	0.02	#	-0.20	0.01	#	-0.19	-0.05
Bachelor's degree	0.46	0.47	-0.01	-0.03	0.48	#	0.01	-0.68
Master's degree	0.46	0.44	0.01	0.02	0.44	#	#	-0.85
Education specialist or Certificate of Advanced Graduate Studies	0.06	0.05	#	0.05	0.05	#	0.02	-0.68
Doctorate or professional degree	0.01	0.01	#	0.03	0.01	#	-0.01	-0.78

See notes at end of table.

Table F-4.　Unit nonresponse bias of teacher stayers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristic	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Highly Qualified Teacher								
Yes	0.80	0.80	#	#	0.80	#	#	-0.91
No	0.08	0.08	#	-0.01	0.08	#	0.01	-0.33
Private school teacher	0.12	0.12	#	-0.01	0.12	#	#	-0.78
Total hours per week spent on all school-related activities								
Less than 40	0.08	0.07	#	0.05	0.08	#	0.05	-0.10
40–44	0.09	0.08	#	0.04	0.09	#	0.04	-0.11
45–54	0.46	0.46	#	#	0.46	#	#	1.33
55–64	0.29	0.29	-0.01	-0.03	0.29	-0.01	-0.03	0.09
65 or more	0.09	0.09	#	0.01	0.09	#	0.02	1.48
Total hours per week spent on classroom instruction								
Less than 21	0.10	0.10	#	0.02	0.10	#	0.01	-0.52
21–25	0.20	0.20	#	0.01	0.20	#	#	-0.97
26–29	0.10	0.10	#	0.01	0.10	#	#	-0.81
30–35	0.50	0.51	#	#	0.51	#	#	-0.65
36 or more	0.10	0.10	#	-0.03	0.10	#	-0.02	-0.39
Teacher participated in induction program in first year of teaching								
Yes	0.16	0.17	-0.01	-0.04	0.17	#	0.01	-0.82
No	0.07	0.07	-0.01	-0.08	0.07	#	-0.01	-0.82
Teacher has more than 3 years of teaching experience	0.77	0.76	0.01	0.02 *	0.76	#	#	-0.99

See notes at end of table.

Table F-4.   **Unit nonresponse bias of teacher stayers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued**

Selected school and teacher characteristic	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Teacher plans on leaving the profession early								
Yes	0.06	0.06	#	-0.06	0.06	#	-0.03	-0.46
No	0.79	0.78	0.01	0.01	0.79	0.01	0.01	-0.42
Undecided	0.15	0.15	#	-0.03	0.15	#	-0.02	-0.39
Community type								
City	0.30	0.29	#	0.01	0.30	0.01	0.02	0.58
Suburb	0.34	0.35	-0.01	-0.03 *	0.34	-0.01	-0.04 *	0.08
Town	0.12	0.12	0.01	0.06 *	0.12	0.01	0.04	-0.25
Rural	0.24	0.24	#	#	0.24	#	#	0.28
Main activity last school year								
Teaching at this school	0.87	0.86	0.01	0.01	0.87	#	#	-0.46
Teaching at another school	0.07	0.07	#	-0.03	0.07	#	-0.02	-0.26
Other	0.06	0.06	#	-0.07	0.06	#	-0.03	-0.56
Teacher's race/ethnicity								
White, non-Hispanic	0.84	0.84	#	#	0.84	#	#	-0.59
All other race/ethnicities	0.16	0.16	#	-0.03	0.16	#	0.01	-0.59
National Board for Professional Teaching Standards certification								
Yes	0.16	0.17	-0.01	-0.03	0.16	-0.01	-0.03	-0.03
No	0.84	0.83	0.01	0.01	0.84	0.01	0.01	-0.03

See notes at end of table.

Table F-4.   Unit nonresponse bias of teacher stayers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

	Before noninterview adjustment				After noninterview adjustment			
Selected school and teacher characteristic	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Number of areas of classroom planning and teaching over which the teacher has no control or minor control[6]								
0	0.46	0.46	#	#	0.45	#	-0.01	0.53
1	0.24	0.24	#	#	0.24	#	0.01	2.05
2	0.21	0.20	#	0.01	0.21	#	0.02	1.44
3	0.07	0.07	#	#	0.07	#	#	-0.62
4	0.02	0.03	#	-0.21	0.02	-0.01	-0.23	0.06
5	0.01	0.01	#	0.10 *	0.01	#	0.13 *	0.24
6	#	#	#	0.12	#	#	0.14	0.21
Amount of own money teacher spent on classroom supplies without reimbursement								
Less than $50	0.10	0.10	-0.01	-0.05	0.10	#	-0.04	-0.32
$50–124	0.18	0.18	#	0.03	0.18	#	0.02	-0.27
$125–249	0.18	0.18	#	-0.02	0.18	#	-0.02	-0.11
$250–399	0.20	0.20	#	0.01	0.21	#	0.02	0.30
$400–749	0.23	0.22	0.01	0.03	0.22	0.01	0.03	-0.05
$750 or more	0.11	0.12	-0.01	-0.07	0.11	-0.01	-0.08	0.15
Teacher's Praxis or other exam results[7]								
Taken and passed	0.74	0.74	#	-0.01	0.74	#	#	-0.69
Taken and not yet passed	#	#	#	-0.01	#	#	-0.01	0.00
Not taken	0.26	0.26	#	0.02	0.25	#	-0.01	-0.70

See notes at end of table.

Table F-4.   Unit nonresponse bias of teacher stayers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristic	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Percentage of teacher's students enrolled in an Individualized Education Program (IEP)								
Less than 2	0.20	0.19	#	0.01	0.20	#	0.01	0.46
2–4	0.10	0.10	#	-0.04	0.10	#	-0.04	-0.02
5–9	0.19	0.19	#	-0.02	0.19	#	-0.01	-0.07
10–24	0.23	0.23	#	#	0.23	#	#	1.13
25–74	0.06	0.06	#	#	0.06	#	#	-0.57
75 or more	0.04	0.04	#	0.06	0.04	#	0.04	-0.24
Teacher is not departmentalized or self-contained	0.18	0.18	#	0.01	0.18	#	0.01	-0.18
Percentage of teacher's students who are of limited-English proficiency (LEP)								
Less than 2	0.54	0.53	0.01	0.02	0.54	0.01	0.02	0.05
2–4	0.07	0.07	#	0.02	0.07	#	0.02	0.04
5–9	0.06	0.07	-0.01	-0.09	0.06	-0.01	-0.09	-0.01
10–24	0.07	0.07	#	-0.07	0.07	#	-0.07	-0.06
25–74	0.06	0.06	#	-0.05	0.06	#	-0.05	-0.02
75 or more	0.02	0.02	#	#	0.02	#	-0.02	2.78
Teacher is not departmentalized or self-contained	0.18	0.18	#	0.01	0.18	#	0.01	-0.18
Teaching position								
Regular full-time teacher	0.91	0.91	#	#	0.91	#	#	-0.47
All others	0.09	0.09	#	0.03	0.09	#	0.02	-0.47
Region								
Northeast	0.20	0.20	-0.01	-0.03	0.20	-0.01	-0.04	0.48
Midwest	0.24	0.24	0.01	0.03	0.24	#	0.02	-0.23
South	0.36	0.37	#	-0.01	0.37	#	#	-0.80
West	0.19	0.19	#	0.01	0.20	#	0.02	0.40

See notes at end of table.

Table F-4.   Unit nonresponse bias of teacher stayers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristic	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
School level								
Elementary	0.44	0.43	0.01	0.02 *	0.44	0.01	0.02 *	-0.02
Middle	0.25	0.26	-0.01	-0.03	0.26	#	-0.02	-0.35
Secondary	0.31	0.31	#	-0.01	0.31	-0.01	-0.02	0.54
Teacher's sex								
Male	0.21	0.22	-0.01	-0.05	0.21	-0.01	-0.05 *	0.11
Female	0.79	0.78	0.01	0.01	0.79	0.01	0.01 *	0.11
School enrollment								
Less than 200	0.09	0.10	#	-0.02	0.09	#	-0.03	0.11
200–349	0.14	0.13	0.01	0.06 *	0.14	0.01	0.07 *	0.03
350–499	0.17	0.16	#	0.01	0.17	#	0.01	0.38
500–749	0.23	0.23	#	0.01	0.23	#	0.01	-0.11
750–999	0.13	0.13	-0.01	-0.04	0.13	-0.01	-0.05	0.07
1,000 or more	0.24	0.25	-0.01	-0.02	0.24	0.00	-0.02	-0.07
Total number of students taught								
Less than 15	0.08	0.07	#	0.02	0.08	#	0.02	-0.22
15–19	0.11	0.10	#	0.04	0.11	0.01	0.05 *	0.11
20–24	0.12	0.12	#	#	0.12	#	0.01	7.56
25 or more	0.07	0.07	#	-0.04	0.07	#	-0.02	-0.32
Teacher is not self-contained or team teacher	0.63	0.63	#	-0.01	0.63	-0.01	-0.01	0.53
Teacher's experience								
First year new	0.04	0.04	#	-0.03	0.04	#	0.04	0.32
Other new	0.11	0.12	-0.01	-0.07 *	0.11	#	-0.02	-0.69
Experienced	0.85	0.84	0.01	0.01 *	0.84	#	#	-0.92

See notes at end of table.

Table F-4. **Unit nonresponse bias of teacher stayers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued**

Selected school and teacher characteristic	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Teacher status								
Leaver	#	#	#	0.09 *	#	#	0.10 *	0.07
Mover	0.01	0.01	#	0.11 *	0.01	#	0.11 *	-0.01
Stayer	0.98	0.98	#	# *	0.98	#	# *	0.05
Unknown	#	#	#	0.12 *	#	#	0.13 *	0.18
Teacher career reflection								
Certainly would become a teacher	0.50	0.49	0.01	0.02	0.50	0.01	0.02	0.02
Probably would become a teacher	0.24	0.24	#	#	0.24	#	#	-1.00
Chances about even for and against	0.14	0.14	#	0.01	0.14	#	#	-0.42
Probably would not become a teacher	0.08	0.09	-0.01	-0.11 *	0.08	-0.01	-0.12 *	0.07
Certainly would not become a teacher	0.03	0.03	#	#	0.03	#	0.02	5.62
Type of certification								
Regular or standard state certificate or advanced professional certificate	0.85	0.84	0.01	0.01 *	0.84	#	#	-0.56
Certificate issued after satisfying all requirements except the completion of a probationary period	0.03	0.03	#	-0.11	0.03	#	-0.08	-0.29
Certificate that requires some additional coursework, student teaching, or passage of a test before regular certification can be obtained	0.04	0.04	#	0.01	0.04	#	0.05	4.82
Certificate issued to persons who must complete a certification program in order to continue teaching	0.02	0.02	#	-0.03	0.02	#	-0.02	-0.45
None of the above in this state	0.01	0.01	#	-0.09	0.01	#	-0.06	-0.32
No certification in this state	0.05	0.05	#	-0.07 *	0.05	#	-0.05	-0.33

See notes at end of table.

Table F-4. Unit nonresponse bias of teacher stayers before and after noninterview adjustment for selected school and teacher characteristics: 2008–09—Continued

Selected school and teacher characteristic	Before noninterview adjustment				After noninterview adjustment			
	Weighted respondent mean[1]	Weighted eligible sample mean[1]	Estimated bias	Percent relative bias	Weighted respondent mean[2]	Estimated bias[3]	Percent relative bias	Percent relative difference[4]
Union member								
Yes	0.69	0.68	0.01	0.01	0.68	#	#	-0.54
No	0.31	0.32	-0.01	-0.02	0.32	#	-0.01	-0.54
Total years of teaching experience								
Less than 2	0.05	0.05	#	-0.08	0.05	#	-0.01	-0.86
2–3	0.10	0.11	-0.01	-0.05	0.11	#	#	-0.95
4–7	0.19	0.20	-0.01	-0.03	0.20	#	#	-1.00
8–12	0.20	0.19	0.01	0.03	0.20	0.01	0.04	0.15
13–20	0.20	0.20	#	-0.01	0.20	-0.01	-0.04	1.90
21 or more	0.26	0.25	0.01	0.04 *	0.25	#	0.01	-0.89
Level of students taught								
Primary	0.40	0.39	#	0.01	0.40	#	0.01	0.22
Middle	0.29	0.29	#	#	0.29	#	0.01	1.63
High school	0.31	0.31	#	-0.01	0.31	-0.01	-0.02	0.60
Combined	0.01	0.01	#	-0.08	0.01	#	-0.10	0.15
Teacher's subject								
Special education	0.10	0.10	#	0.02	0.10	#	0.01	-0.68
General elementary	0.33	0.33	#	#	0.33	#	#	-0.95
Math	0.10	0.10	#	0.04	0.10	#	0.04	-0.04
Science	0.06	0.06	#	-0.07	0.06	#	-0.07	-0.05
English/language arts	0.10	0.10	#	#	0.10	#	0.01	0.72
Social studies	0.05	0.05	#	-0.02	0.05	#	-0.01	-0.41
Vocational/technical	0.04	0.04	#	0.04	0.04	#	0.02	-0.46
Other	0.21	0.21	#	-0.01	0.21	#	-0.02	0.27
Not reported	0.02	0.02	#	0.07	0.02	#	0.08	0.24

Rounds to zero.

† Not applicable.

[1] Weighted using the SASS-adjusted TFS base weight, defined as the TFS base weight multiplied by the SASS final weight and divided by the teacher measurement of size.

[2] Weighted using the final TFS sample weight, defined as the product of the SASS-adjusted TFS base weight and the noninterview adjustment factor.

[3] Estimated bias after weight adjustments is the difference between the weighted respondent mean, after adjustment and the weighted sample mean before adjustments.

[4] In order to show differences on a percentage scale, percent relative difference is the difference between the absolute values of the estimated bias after noninterview adjustments and the absolute value of the estimated bias before noninterview adjustments, divided by the absolute value of the estimated bias before noninterview adjustments, multiplied by 100.

[5] Teacher dissatisfaction is the total number of the statements "The stress and disappointments involved in teaching at this school aren't really worth it," "If I could get a higher paying job I'd leave as soon as possible," "I think about transferring to another school," "I don't seem to have as much enthusiasm now as I did when I began teaching," and "I think about staying home from school because I'm just too tired to go" with which the teacher somewhat agrees or strongly agrees.

[6] Number of areas of classroom planning and teaching over which the teacher has no control or minor control is defined as the number of "no control" or "minor control" responses to item 54 on the SASS Teacher Questionnaire.

[7] Teacher's Praxis or other exam is defined as "taken and passed" if the teacher passed any exam listed in item 28 on the SASS Teacher Questionnaire, "taken and not yet passed" if the teacher has not passed any of the exams, but at least one was reported as having been taken, and "not taken" if the teacher has not taken any of the exams.

NOTE: Asterisk (*) indicates bias is statistically significantly at the 0.05 level. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public and Private School Teacher Data Files," 2007–08, and Teacher Follow-up Survey (TFS), "Current Teacher Documentation Data File," 2008–09.

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Appendix G. Quality Assurance for Keying and Mailout Operations

This appendix details the 2008–09 Teacher Follow-up Survey (TFS) quality assurance (QA) for both data keying of paper questionnaires and mailout operations of letters and questionnaires. An overview of the data keying operations is provided in chapter 6, and the mailout procedures are covered in chapter 4. "Data keying" is the method by which the TFS data are captured and converted from paper to electronic format. The "mailout operations" include all procedures necessary for preparing TFS packages for distribution to respondents, including printing of all forms (such as letters, questionnaires, reminder postcards, etc.) and assembly of packages for sampled teachers.

The first section of this appendix, Data Capture Operations, describes the procedures for the data capture operations used by keying staff. The second section, Cumulative Data Keying Verification Reports, provides results of the verification of the data capture of the TFS questionnaires and the results, and the third section, Mailout Operations Quality Assurance Summary, provides the detailed procedures for quality assurance of the mailout operations and the results.

Data Capture Operations

The 2008–09 TFS data from the paper questionnaires were captured, or converted from paper to electronic format, using manual data keying. The questionnaires were split up into groups called "batches" within questionnaire type and manually keyed. Manual data keying was accomplished using a Key from Paper (KFP) data capture system. The KFP system is programmed to present screens of questionnaire items to data keying staff, who page through the questionnaire and key any entries into the appropriate fields on the screens. The KFP system performs various edits as the data are keyed.

Once all batches of questionnaires were keyed and data entry was complete, images of TFS former and current teacher questionnaires were captured. The image files were used during subsequent steps of data processing to view the actual questionnaires online. All KFP entries were 100 percent verified by the keying staff, meaning that each field was keyed twice, and the results were compared automatically for discrepancies, and subsequently verified. The verification during this operation allowed up to a 1 percent error on a field-to-field basis.

Unacceptable batches of questionnaires in which there was more than a 1 percent error were 100 percent verified a second time by keying staff.

As discussed in chapter 6, data for the internet TFS questionnaires did not go through a separate data capture operation. As respondents completed questions on the TFS website, data were automatically captured and saved by the system.

Once the keying and verification of the paper TFS questionnaires were complete, the TFS datasets were ready to be released to Census analysts to begin the next step of data processing.

Cumulative Data Keying Verification Reports

This section details the results of the verification of the data keying of paper questionnaires. Exhibit G-1 provides results from the verification of the TFS data keying. The total error rates in the table were computed by dividing the total number of keying errors by the total number of keyed fields. The total error rate was 0.61 percent for the former teacher questionnaires and 0.83 percent for the current teacher questionnaires, yielding an overall error rate of 0.77 percent for TFS data keying.

Exhibit G-1. Cumulative key from paper (KFP) data keying verification report, by questionnaire: 2008–09

KFP data keying verification	Total	Questionnaire for Former Teachers 100 percent verified	Questionnaire for Current Teachers 100 percent verified
Unit count	64	26	38
Accepted	0	0	0
Rejected	0	0	0
Keyed documents	745	246	499
Verified documents	745	246	499
Keyed fields	100,291	29,120	71,171
Verified fields	100,519	29,128	71,391
Charge field errors	644	120	524
Charge error rate	0	0	0
Total errors	774	178	596
Total error rate	0.77%	0.61%	0.83%

NOTE: Detail may not sum to totals because of rounding.
SOURCE: *Quality Assurance for TFS Keying and Mailout Operations*, U.S. Census Bureau, 2009.

Exhibit G-2 provides the distribution of keying errors (from exhibit G-1, above) by the type of error. Errors due to data omission (keying staff accidentally missing a field while keying), finger error (keying staff mistyping an entry), and procedure error (keying staff not following part of the keying procedure correctly) were the most common for TFS.

Exhibit G-2. Distribution of keying errors, by questionnaire and type of error: 2008–09

Type of error (code and description)	Questionnaire for Former Teachers		Questionnaire for Current Teachers	
	Number of errors	Percent of errors	Number of errors	Percent of errors
Total errors	178	100.00	596	100.00
1 Other chargeable errors	0	0.00	0	0.00
2 Data omission	54	30.34	239	40.10
3 Duplicate data	0	0.00	0	0.00
4 Auto and manual duplication error	0	0.00	0	0.00
5 Respondent entered data outside recognition zone	0	0.00	0	0.00
6 Recognition misread	0	0.00	0	0.00
7 Recognition omission	0	0.00	0	0.00
8 Finger error	36	20.22	137	22.99
9 Procedure error	30	16.85	148	24.83
10 Undeterminable data	0	0.00	0	0.00
11 Keyer/verifier in error	0	0.00	0	0.00
12 Code error	13	7.30	69	11.58
13 Machine error	5	2.81	0	0.00
14 Supervisor error	0	0.00	0	0.00
15 Explain in remarks	0	0.00	0	0.00
16 Procedure modification	40	22.47	3	0.50

NOTE: Detail may not sum to totals because of rounding.
SOURCE: *Quality Assurance for TFS Keying and Mailout Operations*, U.S. Census Bureau, 2009.

Mailout Operations Quality Assurance Summary

This section details the QA plan for the mailout operations for the 2008–09 TFS. All packages that were mailed to respondents and field representatives were mailed from Jeffersonville, Indiana, by the Census Bureau clerical processing staff.

All TFS forms and questionnaires were custom produced on docuprint equipment. The docuprint equipment allowed for printing and labeling questionnaires in one operation. The system was loaded with images of each questionnaire page, and a file of variable data for each respondent. The system can be programmed to print variable data that are specific to that respondent on any page of the questionnaire.

For the 2008–09 TFS, docuprint was used to print variable data—the name and address of the sample teacher, the control number and associated barcode—on the cover page of the questionnaires. It also printed identification barcodes on each questionnaire page. It inserted the sampled teachers' names and addresses, as well as internet user names and passwords, directly into the letters. All blank questionnaires, letters, and other custom forms were also produced using the docuprint equipment.

For questionnaire booklets, the docuprint equipment loaded one 17-inch by 11-inch sheet at a time. Four questionnaire pages (8.5 x 11 inches, front and back) were printed onto this sheet. Once all sheets for a questionnaire booklet were completed, a sample of the work was examined to ensure that no errors had occurred. When an error was found, an expanded inspection examined the questionnaires that were produced before and after the detected questionnaire to determine if a systematic error had taken place. Once quality assurance of the printing was completed, the sheets went through a binding operation using Duplo Booklet Maker equipment. The Booklet Maker read the barcode to determine when the designated

number of sheets for a particular questionnaire was loaded into the machine, and then folded and stapled it twice in the spine, and trimmed the right-side vertical edge of the booklet. Booklets were subjected to sample inspections and expanded inspections when defects were detected. The docuprinting of all letters, questionnaires, postcards, and other forms was inspected for damage and incorrect presentation.

The assembly of questionnaire packages for sampled teachers was inspected to assure that nothing was damaged, missing, contained undisclosed information, or was incorrectly presented. The results of the mailout QA, including error remarks, for all TFS mailout operations can be found in exhibits G-3 through G-5 in this section of the appendix.

Exhibit G-3. Docuprint quality assurance summary, by type of inspection and form: 2008–09

Form[1]	Mailout	Number printed	Sample inspection			Expanded inspection			Date
			Number inspected	Number defective	Percent defective	Number Inspected	Number defective	Percent defective	
Printing total	†	58,966	1,098	0	0.00	0	0	0.00	†
TFS-11(L)	Initial	10,650	15	0	0.00	0	0	0.00	08/19/08
TFS-1	Initial	10,542	189	0	0.00	0	0	0.00	08/26/08
TFS-8	Reminder	10,527	64	0	0.00	0	0	0.00	09/05/08
TFS-1(T)	Telephone follow-up	5,701	170	0	0.00	0	0	0.00	09/23/08
TFS-13(L)	Advance letter	5,572	33	0	0.00	0	0	0.00	02/23/09
TFS-2	Initial	6	3	0	0.00	0	0	0.00	02/26/09
TFS-3	Initial	8	3	0	0.00	0	0	0.00	02/26/09
TFS-13(L)A	Initial	14	6	0	0.00	0	0	0.00	02/26/09
TFS-14L	Reminder	5,572	33	0	0.00	0	0	0.00	03/04/09
TFS-14L(A)	1st follow-up	14	6	0	0.00	0	0	0.00	03/05/09
TFS-2	1st follow-up	6	3	0	0.00	0	0	0.00	03/05/09
TFS-3	1st follow-up	8	3	0	0.00	0	0	0.00	03/05/09
TFS-15L	Nonresponse follow-up	199	30	0	0.00	0	0	0.00	04/16/09
TFS-2L	Nonresponse follow-up	199	30	0	0.00	0	0	0.00	04/29/09
TFS-15L	Nonresponse follow-up	3,094	90	0	0.00	0	0	0.00	04/20/09
TFS-2	Nonresponse follow-up	829	32	0	0.00	0	0	0.00	04/22/09
TFS-3	Nonresponse follow-up	1,189	33	0	0.00	0	0	0.00	04/22/09
TFS-3L	Nonresponse follow-up	1,083	32	0	0.00	0	0	0.00	04/22/09
TFS-2	Nonresponse follow-up	8	3	0	0.00	0	0	0.00	04/23/09
TFS-2L	Nonresponse follow-up	1	1	0	0.00	0	0	0.00	04/23/09
TFS-3	Nonresponse follow-up	3	3	0	0.00	0	0	0.00	04/23/09
TFS-3L	Nonresponse follow-up	2	2	0	0.00	0	0	0.00	04/23/09
TFS-13(L)A	Nonresponse follow-up	14	9	0	0.00	0	0	0.00	04/23/09
TFS-18(L)	Partial internet follow-up	55	3	0	0.00	0	0	0.00	05/05/09
TFS-2	Nonresponse follow-up	30	3	0	0.00	0	0	0.00	05/28/09
TFS-2L	Nonresponse follow-up	7	3	0	0.00	0	0	0.00	05/28/09
TFS-3	Nonresponse follow-up	29	3	0	0.00	0	0	0.00	05/28/09
TFS-3L	Nonresponse follow-up	48	3	0	0.00	0	0	0.00	05/28/09
TFS-19L(C)	Nonresponse follow-up	1,126	60	0	0.00	0	0	0.00	05/28/09
TFS-19L(F)	Nonresponse follow-up	561	60	0	0.00	0	0	0.00	05/28/09

See notes at end of exhibit.

Exhibit G-3. Docuprint quality assurance summary, by type of inspection and form: 2008–09—Continued

Form[1]	Mailout	Number printed	Sample inspection			Expanded inspection			Date
			Number inspected	Number defective	Percent defective	Number Inspected	Number defective	Percent defective	
TFS-19L(C)	Nonresponse follow-up	77	6	0	0.00	0	0	0.00	05/29/09
TFS-19L(F)	Nonresponse follow-up	37	6	0	0.00	0	0	0.00	05/29/09
TFS-2	Nonresponse follow-up	445	30	0	0.00	0	0	0.00	06/01/09
TFS-2L	Nonresponse follow-up	116	30	0	0.00	0	0	0.00	06/01/09
TFS-3	Nonresponse follow-up	648	32	0	0.00	0	0	0.00	06/01/09
TFS-3L	Nonresponse follow-up	502	31	0	0.00	0	0	0.00	06/01/09
TFS-2L	Nonresponse follow-up	2	2	0	0.00	0	0	0.00	06/03/09
TFS-3L	Nonresponse follow-up	2	2	0	0.00	0	0	0.00	06/03/09
TFS-19L(C)	Nonresponse follow-up	1	1	0	0.00	0	0	0.00	06/03/09
TFS-19L(F)	Nonresponse follow-up	1	1	0	0.00	0	0	0.00	06/03/09
TFS-2	Switcher	5	3	0	0.00	0	0	0.00	06/03/09
TFS-2L	Switcher	1	1	0	0.00	0	0	0.00	06/03/09
TFS-3	Switcher	9	3	0	0.00	0	0	0.00	06/03/09
TFS-3L	Switcher	4	3	0	0.00	0	0	0.00	06/03/09
TFS-17(L)	Switcher	19	19	0	0.00	0	0	0.00	06/03/09

† Not applicable.

[1] TFS refers to the Teacher Follow-up Survey. TFS-1 refers to the Teacher Status Form (Form TFS-1), TFS-2 and TFS-2L refer to the Questionnaire for Former Teachers, and TFS-3 and TFS-3L refer to the Questionnaire for Current Teachers.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: *Quality Assurance for TFS Keying and Mailout Operations*, U.S. Census Bureau, 2009.

Exhibit G-4. Duplo Booklet Maker inspection, by type of inspection and form: 2009

Form[1]	Mailout	Number printed	Sample inspection			Expanded inspection			Date
			Number inspected	Number defective	Percent defective	Number Inspected	Number defective	Percent defective	
Form assembly total	†	5,167	304	0	0.00	0	0	0.00	†
TFS-3	Initial Amish	8	8	0	0.00	0	0	0.00	02/26/09
TFS-2	Nonresponse follow-up	829	22	0	0.00	0	0	0.00	02/26/09
TFS-2L	Nonresponse follow-up	199	15	0	0.00	0	0	0.00	04/23/09
TFS-3	Nonresponse follow-up	1,189	38	0	0.00	0	0	0.00	04/20/09
TFS-3L	Nonresponse follow-up	1,083	37	0	0.00	0	0	0.00	04/23/09
TFS-2	Nonresponse follow-up	8	8	0	0.00	0	0	0.00	04/23/09
TFS-2L	Nonresponse follow-up	1	1	0	0.00	0	0	0.00	04/22/09
TFS-3	Nonresponse follow-up	3	3	0	0.00	0	0	0.00	04/22/09
TFS-3L	Nonresponse follow-up	2	2	0	0.00	0	0	0.00	04/22/09
TFS-2	Nonresponse follow-up	30	15	0	0.00	0	0	0.00	04/22/09
TFS-2L	Nonresponse follow-up	7	7	0	0.00	0	0	0.00	05/28/09
TFS-3	Nonresponse follow-up	29	15	0	0.00	0	0	0.00	05/28/09
TFS-3L	Nonresponse follow-up	48	15	0	0.00	0	0	0.00	05/28/09
TFS-2	Nonresponse follow-up	445	30	0	0.00	0	0	0.00	05/28/09
TFS-2L	Nonresponse follow-up	116	15	0	0.00	0	0	0.00	05/29/09
TFS-3	Nonresponse follow-up	648	22	0	0.00	0	0	0.00	05/29/09
TFS-3L	Nonresponse follow-up	501	30	0	0.00	0	0	0.00	05/29/09
TFS-2	Nonresponse follow-up	5	5	0	0.00	0	0	0.00	05/29/09
TFS-2L	Nonresponse follow-up	1	1	0	0.00	0	0	0.00	06/03/09
TFS-3	Nonresponse follow-up	9	9	0	0.00	0	0	0.00	06/03/09
TFS-3L	Nonresponse follow-up	4	4	0	0.00	0	0	0.00	06/03/09
TFS-2L	Nonresponse FedEx foreign	1	1	0	0.00	0	0	0.00	06/03/09
TFS-3L	Nonresponse FedEx foreign	1	1	0	0.00	0	0	0.00	06/04/09

† Not applicable.

[1] TFS refers to the Teacher Follow-up Survey. TFS-2 and TFS-2L refer to the Questionnaire for Former Teachers and TFS-3 and TFS-3L refer to the Questionnaire for Current Teachers.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: *Quality Assurance for TFS Keying and Mailout Operations*, U.S. Census Bureau, 2009.

Exhibit G-5. Package assembly quality assurance, by type of inspection and form: 2008–09

Form[1]	Mailout	Number printed	Sample inspection			Expanded inspection			Date
			Number inspected	Number defective	Percent defective	Number Inspected	Number defective	Percent defective	
Package assembly total	†	28,557	18,375	11	0.06	3	0	0.00	†
TFS-1	Initial	10,410	228	2 [2]	0.88	3	0	0.00	08/28/08
TFS-1	Initial	109	109	0	0.00	0	0	0.00	08/28/08
TFS-13(L)	Advance letter	5,572	5,572	2 [3]	0.04	0	0	0.00	02/24/09
TFS-2	Initial Amish	6	6	0	0.00	0	0	0.00	02/27/09
TFS-3	Initial Amish	8	8	0	0.00	0	0	0.00	02/27/09
TFS-14(L)	Reminder	5,572	5,572	0	0.00	0	0	0.00	03/05/09
TFS-2	1st follow-up Amish	6	6	0	0.00	0	0	0.00	03/05/09
TFS-3	1st follow-up Amish	8	8	0	0.00	0	0	0.00	03/05/09
TFS-2	Nonresponse follow-up	827	827	0	0.00	0	0	0.00	04/22/09
TFS-2L	Nonresponse follow-up	199	199	0	0.00	0	0	0.00	04/21/09
TFS-3	Nonresponse follow-up	1,184	1,184	0	0.00	0	0	0.00	04/22/09
TFS-3L	Nonresponse follow-up	1,081	1,081	0	0.00	0	0	0.00	04/22/09
TFS-2	Nonresponse follow-up	8	8	0	0.00	0	0	0.00	04/29/09
TFS-2L	Nonresponse follow-up	1	1	0	0.00	0	0	0.00	04/29/09
TFS-3	Nonresponse follow-up	3	3	0	0.00	0	0	0.00	04/29/09
TFS-3L	Nonresponse follow-up	2	2	0	0.00	0	0	0.00	04/29/09
TFS-18(L)	Partial internet follow-up	55	55	0	0.00	0	0	0.00	05/05/09
TFS-2	Nonresponse follow-up	30	30	0	0.00	0	0	0.00	06/01/09
TFS-2L	Nonresponse follow-up	7	7	0	0.00	0	0	0.00	06/01/09
TFS-3	Nonresponse follow-up	29	29	0	0.00	0	0	0.00	06/01/09
TFS-3L	Nonresponse follow-up	48	48	0	0.00	0	0	0.00	06/01/09
TFS-2	Nonresponse follow-up	445	445	0	0.00	0	0	0.00	06/01/09
TFS-2L	Nonresponse follow-up	116	116	0	0.00	0	0	0.00	06/01/09
TFS-3	Nonresponse follow-up	625	625	0	0.00	0	0	0.00	06/01/09
TFS-3L	Nonresponse follow-up	501	501	7 [4]	1.40	0	0	0.00	06/01/09
FedEx label	Nonresponse follow-up	1,680	1,680	0	0.00	0	0	0.00	06/02/09
TFS-2	Nonresponse follow-up	5	5	0	0.00	0	0	0.00	06/03/09
TFS-2L	Nonresponse follow-up	1	1	0	0.00	0	0	0.00	06/03/09
TFS-3	Nonresponse follow-up	9	9	0	0.00	0	0	0.00	06/03/09
TFS-3L	Nonresponse follow-up	4	4	0	0.00	0	0	0.00	06/03/09
TFS-2L	Nonresponse FedEx foreign	1	1	0	0.00	0	0	0.00	06/04/09
TFS-3L	Nonresponse FedEx foreign	1	1	0	0.00	0	0	0.00	06/04/09
FedEx label	Second request	4	4	0	0.00	0	0	0.00	06/10/09

† Not applicable.

[1] TFS refers to the Teacher Follow-up Survey. TFS-1 refers to the Teacher Status Form, TFS-2 and TFS-2L refer to the Questionnaire for Former Teachers, and TFS-3 and TFS-3L refer to the Questionnaire for Current Teachers.

[2] Package assembly errors and remarks: Two disclosure, 2 missing package.

[3] Package assembly errors and remarks: One disclosure, 1 missing package.

[4] Package assembly errors and remarks: Six extra special notes, 1 missing special note.

NOTE: Detail may not sum to totals because of rounding.
SOURCE: *Quality Assurance for TFS Keying and Mailout Operations*, U.S. Census Bureau, 2009.

Appendix H. Changes Made to Variables During the Consistency and Logic Edits, by Data File

The tables in this appendix show the number of edit changes made to responses for each of the variables within each data file during the consistency and logic edits. (See chapter 6 for more details about the consistency and logic edits.) The tables are as follows:

Table H-1. Number of consistency and logic edit changes and percentage of records affected during the computer edit to the Former Teacher Data File, by variable: 2008–09

Variable	Total number of edit changes	Percent of records affected by all edits	Consistency edits Number of changes	Percent of records affected	Logic edits Number of changes	Percent of records affected
F1010	0	0.00	0	0.00	0	0.00
F1600	5	0.40	0	0.00	5	0.40
F1011	0	0.00	0	0.00	0	0.00
F1601	5	0.40	5	0.40	0	0.00
F5602	0	0.00	0	0.00	0	0.00
F1603	11	0.87	11	0.87	0	0.00
F5603	0	0.00	0	0.00	0	0.00
F1604	22	1.74	22	1.74	0	0.00
F5605	0	0.00	0	0.00	0	0.00
F5606	0	0.00	0	0.00	0	0.00
F1607	9	0.71	3	0.24	6	0.47
F1608	3	0.24	3	0.24	0	0.00
F5608	0	0.00	0	0.00	0	0.00
F1609	1	0.08	1	0.08	0	0.00
F1610	0	0.00	0	0.00	0	0.00
F1611	4	0.32	0	0.00	4	0.32
F1414	51	4.03	36	2.85	15	1.19
F1415	3	0.24	0	0.00	3	0.24
F1612	48	3.80	3	0.24	45	3.56
F1613	0	0.00	0	0.00	0	0.00
F1700	17	1.34	7	0.55	10	0.79
F1701	11	0.87	3	0.24	8	0.63
F5701	5	0.40	0	0.00	5	0.40
F1702	32	2.53	0	0.00	32	2.53
F1703	44	3.48	0	0.00	44	3.48
F1704	31	2.45	0	0.00	31	2.45
F1705	30	2.37	0	0.00	30	2.37
F1706	26	2.06	0	0.00	26	2.06
F1707	26	2.06	0	0.00	26	2.06
F1708	25	1.98	0	0.00	25	1.98
F1709	22	1.74	0	0.00	22	1.74
F1710	23	1.82	0	0.00	23	1.82
F1711	23	1.82	0	0.00	23	1.82
F1712	24	1.90	0	0.00	24	1.90
F1713	24	1.90	0	0.00	24	1.90
F1714	34	2.69	0	0.00	34	2.69
F1715	25	1.98	0	0.00	25	1.98
F1716	24	1.90	0	0.00	24	1.90
F1717	26	2.06	0	0.00	26	2.06
F1718	36	2.85	0	0.00	36	2.85

See notes at end of table.

Table H-1. Number of consistency and logic edit changes and percentage of records affected during the computer edit to the Former Teacher Data File, by variable: 2008–09—Continued

Variable	Total number of edit changes	Percent of records affected by all edits	Consistency edits		Logic edits	
			Number of changes	Percent of records affected	Number of changes	Percent of records affected
F1719	23	1.82	0	0.00	23	1.82
F1720	23	1.82	0	0.00	23	1.82
F1721	21	1.66	0	0.00	21	1.66
F1722	22	1.74	0	0.00	22	1.74
F1723	28	2.22	0	0.00	28	2.22
F1724	23	1.82	0	0.00	23	1.82
F1725	22	1.74	0	0.00	22	1.74
F1726	23	1.82	0	0.00	23	1.82
F1727	21	1.66	0	0.00	21	1.66
F1728	22	1.74	0	0.00	22	1.74
F1729	26	2.06	0	0.00	26	2.06
F1730	23	1.82	0	0.00	23	1.82
F1731	26	2.06	0	0.00	26	2.06
F1732	32	2.53	0	0.00	32	2.53
F1733	345	27.29	0	0.00	345	27.29
F5733	0	0.00	0	0.00	0	0.00
F1734	161	12.74	0	0.00	161	12.74
F1800	1	0.08	1	0.08	0	0.00
F1801	0	0.00	0	0.00	0	0.00
F1802	0	0.00	0	0.00	0	0.00
F1803	0	0.00	0	0.00	0	0.00
F1804	0	0.00	0	0.00	0	0.00
F1805	0	0.00	0	0.00	0	0.00
F1806	0	0.00	0	0.00	0	0.00
F1807	0	0.00	0	0.00	0	0.00
F1808	0	0.00	0	0.00	0	0.00
F1809	0	0.00	0	0.00	0	0.00
F1810	0	0.00	0	0.00	0	0.00
F1811	0	0.00	0	0.00	0	0.00
F1812	0	0.00	0	0.00	0	0.00
F1813	0	0.00	0	0.00	0	0.00
F1814	0	0.00	0	0.00	0	0.00
F1815	0	0.00	0	0.00	0	0.00
F1816	0	0.00	0	0.00	0	0.00
F1817	0	0.00	0	0.00	0	0.00

See notes at end of table.

Table H-1.   Number of consistency and logic edit changes and percentage of records affected during the computer edit to the Former Teacher Data File, by variable: 2008–09—Continued

Variable	Total number of edit changes	Percent of records affected by all edits	Consistency edits		Logic edits	
			Number of changes	Percent of records affected	Number of changes	Percent of records affected
F1818	0	0.00	0	0.00	0	0.00
F1819	0	0.00	0	0.00	0	0.00
F1820	0	0.00	0	0.00	0	0.00
F1504	3	0.24	0	0.00	3	0.24
F1507	28	2.22	0	0.00	28	2.22
F1508	48	3.80	8	0.63	40	3.16
F1509	0	0.00	0	0.00	0	0.00
F1510	0	0.00	0	0.00	0	0.00
F1511	274	21.68	0	0.00	274	21.68
F1512	357	28.24	0	0.00	357	28.24
F1513	379	29.98	0	0.00	379	29.98
F1514	412	32.59	0	0.00	412	32.59

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), "Former Teacher Documentation Data File," 2008–09.

Table H-2.   Number of consistency and logic edit changes and percentage of records affected during the computer edit to the Current Teacher Data File, by variable: 2008–09

Variable	Total number of edit changes	Percent of records affected by all edits	Consistency edits		Logic edits	
			Number of changes	Percent of records affected	Number of changes	Percent of records affected
F1010	0	0.00	0	0.00	0	0.00
F1011	0	0.00	0	0.00	0	0.00
F1012	59	1.69	40	1.15	19	0.55
F1200	5	0.14	5	0.14	0	0.00
F1201	19	0.55	19	0.55	0	0.00
F1202	24	0.69	0	0.00	24	0.69
F5202	0	0.00	0	0.00	0	0.00
F5203	0	0.00	0	0.00	0	0.00
F5204	0	0.00	0	0.00	0	0.00
F5205	0	0.00	0	0.00	0	0.00
F5206	0	0.00	0	0.00	0	0.00
F5207	0	0.00	0	0.00	0	0.00
F5208	0	0.00	0	0.00	0	0.00
F5209	0	0.00	0	0.00	0	0.00
F1210	4	0.11	4	0.11	0	0.00
F1211	1	0.03	1	0.03	0	0.00
F1212	1	0.03	1	0.03	0	0.00
F1213	1	0.03	1	0.03	0	0.00
F1214	1	0.03	1	0.03	0	0.00
F1215	2	0.06	2	0.06	0	0.00
F1216	4	0.11	4	0.11	0	0.00
F1217	5	0.14	5	0.14	0	0.00
F1218	5	0.14	5	0.14	0	0.00
F1219	5	0.14	5	0.14	0	0.00
F1220	7	0.20	7	0.20	0	0.00
F1221	6	0.17	6	0.17	0	0.00
F1222	9	0.26	9	0.26	0	0.00
F1223	8	0.23	8	0.23	0	0.00
F1224	1	0.03	1	0.03	0	0.00
F1225	16	0.46	1	0.03	15	0.43
F1226	0	0.00	0	0.00	0	0.00
F1227	12	0.34	2	0.06	10	0.29
F1228	9	0.26	1	0.03	8	0.23
F5228	5	0.14	0	0.00	5	0.14
F1229	25	0.72	0	0.00	25	0.72
F1230	11	0.32	0	0.00	11	0.32
F1231	9	0.26	0	0.00	9	0.26
F1232	12	0.34	0	0.00	12	0.34
F1233	11	0.32	0	0.00	11	0.32
F1234	21	0.60	0	0.00	21	0.60

See notes at end of table.

Table H-2. Number of consistency and logic edit changes and percentage of records affected during the computer edit to the Current Teacher Data File, by variable: 2008–09—Continued

Variable	Total number of edit changes	Percent of records affected by all edits	Consistency edits		Logic edits	
			Number of changes	Percent of records affected	Number of changes	Percent of records affected
F1235	11	0.32	0	0.00	11	0.32
F1236	10	0.29	0	0.00	10	0.29
F1237	11	0.32	0	0.00	11	0.32
F1238	11	0.32	0	0.00	11	0.32
F1239	10	0.29	0	0.00	10	0.29
F1240	10	0.29	0	0.00	10	0.29
F1241	12	0.34	0	0.00	12	0.34
F1242	13	0.37	0	0.00	13	0.37
F1243	10	0.29	0	0.00	10	0.29
F1244	11	0.32	0	0.00	11	0.32
F1245	12	0.34	0	0.00	12	0.34
F1246	11	0.32	0	0.00	11	0.32
F1247	14	0.40	0	0.00	14	0.40
F1248	12	0.34	0	0.00	12	0.34
F1249	14	0.40	0	0.00	14	0.40
F1250	13	0.37	0	0.00	13	0.37
F1251	14	0.40	0	0.00	14	0.40
F1252	14	0.40	0	0.00	14	0.40
F1253	14	0.40	0	0.00	14	0.40
F1254	152	4.37	0	0.00	152	4.37
F5254	0	0.00	0	0.00	0	0.00
F1255	88	2.53	0	0.00	88	2.53
F1256	0	0.00	0	0.00	0	0.00
F1300	0	0.00	0	0.00	0	0.00
F1301	0	0.00	0	0.00	0	0.00
F1302	1	0.03	0	0.00	1	0.03
F1303	1	0.03	0	0.00	1	0.03
F1304	1	0.03	0	0.00	1	0.03
F1305	2	0.06	0	0.00	2	0.06
F1306	0	0.00	0	0.00	0	0.00
F1307	0	0.00	0	0.00	0	0.00
F1308	0	0.00	0	0.00	0	0.00
F1309	0	0.00	0	0.00	0	0.00
F1310	0	0.00	0	0.00	0	0.00
F1311	0	0.00	0	0.00	0	0.00
F1312	0	0.00	0	0.00	0	0.00
F1313	0	0.00	0	0.00	0	0.00
F1314	0	0.00	0	0.00	0	0.00
F1315	0	0.00	0	0.00	0	0.00
F1316	0	0.00	0	0.00	0	0.00

See notes at end of table.

Table H-2.   Number of consistency and logic edit changes and percentage of records affected during the computer edit to the Current Teacher Data File, by variable: 2008–09— Continued

Variable	Total number of edit changes	Percent of records affected by all edits	Consistency edits		Logic edits	
			Number of changes	Percent of records affected	Number of changes	Percent of records affected
F1317	0	0.00	0	0.00	0	0.00
F1318	8	0.23	0	0.00	8	0.23
F1319	0	0.00	0	0.00	0	0.00
F1320	0	0.00	0	0.00	0	0.00
F1321	22	0.63	0	0.00	22	0.63
F1406	276	7.93	29	0.83	247	7.10
F1414	273	7.84	131	3.76	142	4.08
F1415	1	0.03	0	0.00	1	0.03
F1504	0	0.00	0	0.00	0	0.00
F1507	50	1.44	2	0.06	48	1.38
F1508	102	2.93	20	0.57	82	2.36
F1509	0	0.00	0	0.00	0	0.00
F1510	0	0.00	0	0.00	0	0.00
F1511	885	25.42	0	0.00	885	25.42
F1512	1,092	31.37	0	0.00	1,092	31.37
F1513	976	28.04	0	0.00	976	28.04
F1514	1,283	36.86	0	0.00	1,283	36.86

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), "Current Teacher Documentation Data File," 2008–09.

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Appendix I. Imputation Changes to Variables, by Data File

The tables of this appendix contain the total number of imputations applied in both stages of imputation as well as the percentage of records that were imputed for each source code on the data files. (See chapter 6 for more details about imputation procedures.) The tables are as follows:

Table I-1.   Number of changes and percentage of records affected during imputation to the Former Teacher Data File, by type of imputation and variable: 2008–09

Variable	Total number of imputation changes	Percent of records affected by imputation	Donor imputation Number of changes	Donor imputation Percent of records affected	Mean or mode imputation Number of changes	Mean or mode imputation Percent of records affected
F1010	0	0.00	0	0.00	0	0.00
F1600	13	1.03	13	1.03	0	0.00
F1011	0	0.00	0	0.00	0	0.00
F1601	0	0.00	0	0.00	0	0.00
F1603	0	0.00	0	0.00	0	0.00
F1604	1	0.08	1	0.08	0	0.00
F1607	38	3.01	28	2.22	10	0.79
F1608	7	0.55	5	0.40	2	0.16
F1609	8	0.63	6	0.47	2	0.16
F1610	48	3.80	46	3.64	2	0.16
F1611	85	6.72	71	5.62	14	1.11
F1414	55	4.35	55	4.35	0	0.00
F1415	115	9.10	101	7.99	14	1.11
F1612	30	2.37	29	2.29	1	0.08
F1613	6	0.47	4	0.32	2	0.16
F1700	47	3.72	47	3.72	0	0.00
F1701	4	0.32	3	0.24	1	0.08
F1702	86	6.80	85	6.72	1	0.08
F1703	85	6.72	84	6.65	1	0.08
F1704	87	6.88	84	6.65	3	0.24
F1705	82	6.49	81	6.41	1	0.08
F1706	85	6.72	65	5.14	20	1.58
F1707	86	6.80	85	6.72	1	0.08
F1708	85	6.72	84	6.65	1	0.08
F1709	85	6.72	84	6.65	1	0.08
F1710	85	6.72	84	6.65	1	0.08
F1711	87	6.88	86	6.80	1	0.08
F1712	86	6.80	85	6.72	1	0.08
F1713	87	6.88	86	6.80	1	0.08
F1714	85	6.72	84	6.65	1	0.08
F1715	89	7.04	88	6.96	1	0.08
F1716	87	6.88	86	6.80	1	0.08
F1717	88	6.96	87	6.88	1	0.08
F1718	88	6.96	87	6.88	1	0.08
F1719	88	6.96	87	6.88	1	0.08

See notes at end of table.

Table I-1.   Number of changes and percentage of records affected during imputation to the Former Teacher Data File, by type of imputation and variable: 2008–09—Continued

Variable	Total number of imputation changes	Percent of records affected by imputation	Donor imputation Number of changes	Percent of records affected	Mean or mode imputation Number of changes	Percent of records affected
F1720	90	7.12	90	7.12	0	0.00
F1721	89	7.04	89	7.04	0	0.00
F1722	88	6.96	88	6.96	0	0.00
F1723	87	6.88	86	6.80	1	0.08
F1724	89	7.04	89	7.04	0	0.00
F1725	89	7.04	87	6.88	2	0.16
F1726	88	6.96	87	6.88	1	0.08
F1727	88	6.96	87	6.88	1	0.08
F1728	91	7.20	85	6.72	6	0.47
F1729	91	7.20	85	6.72	6	0.47
F1730	92	7.28	86	6.80	6	0.47
F1731	90	7.12	84	6.65	6	0.47
F1732	93	7.36	91	7.20	2	0.16
F1733	93	7.36	92	7.28	1	0.08
F1734	74	5.85	74	5.85	0	0.00
F1800	0	0.00	0	0.00	0	0.00
F1801	46	3.64	44	3.48	2	0.16
F1802	48	3.80	46	3.64	2	0.16
F1803	47	3.72	45	3.56	2	0.16
F1804	47	3.72	45	3.56	2	0.16
F1805	49	3.88	47	3.72	2	0.16
F1806	47	3.72	45	3.56	2	0.16
F1807	48	3.80	46	3.64	2	0.16
F1808	49	3.88	47	3.72	2	0.16
F1809	50	3.96	47	3.72	3	0.24
F1810	49	3.88	47	3.72	2	0.16
F1811	49	3.88	47	3.72	2	0.16
F1812	49	3.88	47	3.72	2	0.16
F1813	50	3.96	45	3.56	5	0.40
F1814	48	3.80	46	3.64	2	0.16
F1815	47	3.72	45	3.56	2	0.16
F1816	49	3.88	47	3.72	2	0.16
F1817	48	3.80	46	3.64	2	0.16
F1818	51	4.03	49	3.88	2	0.16
F1819	49	3.88	47	3.72	2	0.16

See notes at end of table.

Table I-1.   Number of changes and percentage of records affected during imputation to the Former Teacher Data File, by type of imputation and variable: 2008–09—Continued

Variable	Total number of imputation changes	Percent of records affected by imputation	Donor imputation		Mean or mode imputation	
			Number of changes	Percent of records affected	Number of changes	Percent of records affected
F1820	49	3.88	47	3.72	2	0.16
F1504	76	6.01	76	6.01	0	0.00
F1507	45	3.56	44	3.48	1	0.08
F1508	44	3.48	44	3.48	0	0.00
F1509	6	0.47	5	0.40	1	0.08
F1510	0	0.00	0	0.00	0	0.00
F1511	68	5.38	68	5.38	0	0.00
F1512	184	14.56	177	14.00	7	0.55
F1513	167	13.21	160	12.66	7	0.55
F1514	157	12.42	147	11.63	10	0.79

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), "Former Teacher Documentation Data File," 2008–09.

Table I-2.   Number of changes and percentage of records affected during imputation to the Current Teacher Data File, by type of imputation and variable: 2008–09

Variable	Total number of imputation changes	Percent of records affected by imputation	Number of changes		Percent of records affected	
			Number of changes	Percent of records affected	Number of changes	Percent of records affected
F1010	0	0.00	0	0.00	0	0.00
F1011	0	0.00	0	0.00	0	0.00
F1012	13	0.37	13	0.37	0	0.00
F1200	0	0.00	0	0.00	0	0.00
F1201	0	0.00	0	0.00	0	0.00
F1202	0	0.00	0	0.00	0	0.00
F5202	0	0.00	0	0.00	0	0.00
F5203	0	0.00	0	0.00	0	0.00
F5204	0	0.00	0	0.00	0	0.00
F5205	0	0.00	0	0.00	0	0.00
F5206	0	0.00	0	0.00	0	0.00
F5207	0	0.00	0	0.00	0	0.00
F5208	0	0.00	0	0.00	0	0.00
F5209	0	0.00	0	0.00	0	0.00
F1210	4	0.11	4	0.11	0	0.00
F1211	9	0.26	9	0.26	0	0.00
F1212	10	0.29	10	0.29	0	0.00
F1213	10	0.29	10	0.29	0	0.00
F1214	10	0.29	10	0.29	0	0.00
F1215	12	0.34	12	0.34	0	0.00
F1216	11	0.32	11	0.32	0	0.00
F1217	11	0.32	11	0.32	0	0.00
F1218	9	0.26	9	0.26	0	0.00
F1219	11	0.32	11	0.32	0	0.00
F1220	5	0.14	5	0.14	0	0.00
F1221	5	0.14	5	0.14	0	0.00
F1222	5	0.14	5	0.14	0	0.00
F1223	5	0.14	5	0.14	0	0.00
F1224	0	0.00	0	0.00	0	0.00
F1225	21	0.60	16	0.46	5	0.14
F1226	7	0.20	0	0.00	7	0.20
F1227	23	0.66	23	0.66	0	0.00
F1228	5	0.14	5	0.14	0	0.00
F1229	31	0.89	31	0.89	0	0.00
F1230	32	0.92	32	0.92	0	0.00
F1231	31	0.89	29	0.83	2	0.06
F1232	33	0.95	31	0.89	2	0.06
F1233	31	0.89	29	0.83	2	0.06
F1234	33	0.95	31	0.89	2	0.06
F1235	32	0.92	30	0.86	2	0.06

See notes at end of table.

Table I-2.   Number of changes and percentage of records affected during imputation to the Current Teacher Data File, by type of imputation and variable: 2008–09—Continued

Variable	Total number of imputation changes	Percent of records affected by imputation	Number of changes		Percent of records affected	
			Number of changes	Percent of records affected	Number of changes	Percent of records affected
F1236	33	0.95	31	0.89	2	0.06
F1237	33	0.95	31	0.89	2	0.06
F1238	32	0.92	30	0.86	2	0.06
F1239	33	0.95	33	0.95	0	0.00
F1240	32	0.92	32	0.92	0	0.00
F1241	33	0.95	33	0.95	0	0.00
F1242	33	0.95	33	0.95	0	0.00
F1243	31	0.89	29	0.83	2	0.06
F1244	31	0.89	29	0.83	2	0.06
F1245	31	0.89	31	0.89	0	0.00
F1246	31	0.89	29	0.83	2	0.06
F1247	31	0.89	29	0.83	2	0.06
F1248	32	0.92	32	0.92	0	0.00
F1249	32	0.92	32	0.92	0	0.00
F1250	32	0.92	32	0.92	0	0.00
F1251	31	0.89	31	0.89	0	0.00
F1252	32	0.92	32	0.92	0	0.00
F1253	32	0.92	32	0.92	0	0.00
F1254	37	1.06	35	1.01	2	0.06
F1255	29	0.83	29	0.83	0	0.00
F1256	111	3.19	111	3.19	0	0.00
F1300	131	3.76	131	3.76	0	0.00
F1301	134	3.85	134	3.85	0	0.00
F1302	140	4.02	140	4.02	0	0.00
F1303	130	3.73	130	3.73	0	0.00
F1304	132	3.79	132	3.79	0	0.00
F1305	138	3.96	138	3.96	0	0.00
F1306	141	4.05	141	4.05	0	0.00
F1307	141	4.05	141	4.05	0	0.00
F1308	142	4.08	142	4.08	0	0.00
F1309	145	4.17	145	4.17	0	0.00
F1310	135	3.88	135	3.88	0	0.00
F1311	136	3.91	136	3.91	0	0.00
F1312	138	3.96	138	3.96	0	0.00
F1313	136	3.91	136	3.91	0	0.00
F1314	138	3.96	138	3.96	0	0.00
F1315	144	4.14	144	4.14	0	0.00
F1316	144	4.14	144	4.14	0	0.00
F1317	144	4.14	144	4.14	0	0.00
F1318	139	3.99	139	3.99	0	0.00

See notes at end of table.

Table I-2.   Number of changes and percentage of records affected during imputation to the Current Teacher Data File, by type of imputation and variable: 2008–09—Continued

Variable	Total number of imputation changes	Percent of records affected by imputation	Number of changes		Percent of records affected	
			Number of changes	Percent of records affected	Number of changes	Percent of records affected
F1319	145	4.17	145	4.17	0	0.00
F1320	152	4.37	152	4.37	0	0.00
F1321	63	1.81	63	1.81	0	0.00
F1406	21	0.60	18	0.52	3	0.09
F1414	17	0.49	17	0.49	0	0.00
F1415	16	0.46	8	0.23	8	0.23
F1504	128	3.68	128	3.68	0	0.00
F1507	66	1.90	55	1.58	11	0.32
F1508	59	1.69	55	1.58	4	0.11
F1509	7	0.20	3	0.09	4	0.11
F1510	0	0.00	0	0.00	0	0.00
F1511	123	3.53	112	3.22	11	0.32
F1512	371	10.66	327	9.39	44	1.26
F1513	285	8.19	247	7.10	38	1.09
F1514	243	6.98	212	6.09	31	0.89

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), "Current Teacher Documentation Data File," 2008–09.

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Appendix J. Weighting Adjustment Cells

A detailed listing of the weighting classes, or cells, is contained in this appendix. Refer to chapter 7 on weighting for a more general description of the weighting procedure.

Teacher Follow-up Survey Noninterview Adjustment Cells

The noninterview adjustment cells are as described in exhibit 6 in chapter 7.

Teacher Follow-up Survey Ratio Adjustment Cells

The ratio adjustment tables used in the weighting have the following categories in common: sex (i.e., male and female), race/ethnicity (i.e., non-Hispanic White and all other race/ethnicities), teaching assignment (i.e., special education, early childhood/general elementary, arts and music, math, natural science, English/language arts, ESL/Bilingual education, foreign languages, social science, health/physical education, vocational, career or technical education, and other) and age (categories vary). Public charter school teachers are combined with traditional public school teachers for the purpose of weighting. Note that the characteristics (sex, race/ethnicity, teaching assignment, age, sector, etc.) used to define the weighting classes are based on data reported in the 2007–08 Schools and Staffing Survey (SASS).

Public School Teachers: Sex by Race/Ethnicity by Teaching Assignment by Age

Male by White, non-Hispanic:	Less than 37, 37–48, 49–54, 55–56, 57 and older
Male by all other race/ethnicities:	No age categories used
Female by White, non-Hispanic:	Less than 26, 26, 27–29, 30–33, 34–37, 38–42, 43–46, 47–50, 51–54, 55–57, 58 and older
Female by all other race/ethnicities:	Less than 32, 32–39, 40–50, 51 and older

Private School Teachers: Sex by Race/Ethnicity by Teaching Assignment by Age

Male by White, non-Hispanic:	No age categories used
Male by all other race/ethnicities:	No age categories used
Female by White, non-Hispanic:	Less than 25, 25–28, 29–33, 34–38, 39–42, 43–47, 48–51, 52–56, 57–61, 62 and older
Female by all other race/ethnicities:	Less than 40, 40 and older

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Appendix K. Evaluation of an Alternative Nonresponse Adjustment Method

This appendix contains a November 18, 2009, report authored by Jared Coopersmith of ESSI-QIP, Jill Dever of RTI International, and Jason Hill of ESSI-AIR. The contents are listed below.

Overview

Concerns have been expressed by the National Center for Education Statistics (NCES) about the computation of the noninterview adjustment factor used in the creation of the Teacher Follow-up Survey (TFS) analysis weights. The noninterview adjustment factor (NIAF) is used to reduce levels of bias associated with differential nonresponse to insignificant levels in TFS estimates. The method to produce the NIAF in previous administrations of TFS relied on weighting class cells defined by variables that have been historically associated with nonresponse. This has been criticized as relying too heavily on assumptions about nonresponse, which could lead to a suboptimal nonresponse adjustment.

The purpose of this appendix is to detail an analysis conducted to improve the TFS NIAF and to propose changes to the existing methodology. To avoid using a priori assumptions about nonresponse, two new sets of weighting class cells were developed using data from the 2004–05 TFS and a Chi-Square Automatic Interaction Detection (CHAID) procedure. A comparative analysis was conducted on the NIAF values to determine 1) if the new weighting classes reduced the detectable levels of bias below levels shown for the original weighting classes, while 2) maintaining (or reducing) the variation in the NIAF that would otherwise increase the standard errors of the survey estimates. The resulting recommendation is to use CHAID to develop weighting class cells with at least 50 sample members for future administrations of TFS.

We begin with a brief description of previous methods used to calculate the TFS NIAF. We then discuss the proposed CHAID methodology, followed by a discussion of the analysis plan and results. Additional details on the recommended change to the methodology are provided in the last section of the appendix.

Previous Method Used for TFS Nonresponse Adjustments

The previous method of determining weighting cells for the NIAF relied on a set of sampling frame characteristics assumed to be related to unit nonresponse but did not empirically determine the pattern of nonresponse in each new collection. For example, characteristics used in the 2004–05 TFS nonresponse adjustment included teacher's *age*, *education*, *sex*, and *years of teaching experience*. Exhibit K-1 illustrates an example of the nonresponse weighting tables used in the previous method to sort cases into weighting classes. Once the cases were sorted into a weighting cell, the NIAF was calculated (more detailed information can be found in the Noninterview Adjustment Factor section). Many weighting tables were divided between male and female teachers, and then subdivided by education and age. Teachers with different experience levels were sorted into different tables by school sector and TFS status. Thus, teaching experience, school sector, and TFS status were assumed to be major determinants of nonresponse, while teacher's sex, education, and age were seen as less important determinants of nonresponse.

Exhibit K-1. 2004–05 TFS nonresponse weighting table example for new public school (includes public charter) teacher leavers

	Sex			
	Male		Non-male	
	Education		Education	
Age	Bachelor's or less	Master's or more	Bachelor's or less	Master's or more
Less than 24				
24–25				
26–27				
28–30				
31–34				
35–39				
40–46				
47–53				
54 or more				

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Teacher Follow-up Survey (TFS), 2004–05.

Once the weighting class cells were populated with the survey data, a collapsing routine checked either for cells that had too large an effect on the weighting adjustment (NIAF greater than 1.5[1]) or for cell sizes that were not large enough (less than 15 cases). If a cell met either of these criteria it was collapsed with a cell with closest characteristics in the same weighting table. NIAF was then recalculated based on the totals in the newly-merged cell. This collapsing process was repeated until no cells met the criteria for collapse. The method that was used for the 2004–05 TFS was replicated for this comparison analysis.

However, the previous method of defining the weighting adjustment cells has shortcomings. The concept relies on the use of predictor variables known for all sample members that are associated both with the key analysis variables collected in the survey, as well as with the patterns of unit nonresponse.[2] If predictors are used to create the weighting classes that are not related to response propensity, then the resulting NIAF will not reduce bias associated with nonresponse. Also, if additional predictors are used, a higher number of weighting classes may be generated potentially introducing unnecessary variation in the final analysis weights.

Chi-Square Automatic Interaction Detection (CHAID)

Using CHAID to determine weighting cells

ESSI tested an alternative method of defining weighting classes using Chi-Square Automatic Interaction Detection (CHAID), which is a statistical algorithm that successively breaks data into groups based on chi-square tests of association (Kass 1980). The CHAID algorithm partitions data to maximize within-group similarity and between-group dissimilarity—a desirable characteristic for nonresponse weighting classes. CHAID utilizes a dependent variable, such as a binary variable to identify survey respondents, and one or more predictor variables to partition the data. The algorithm temporarily divides the data into two groups based on a predictor variable and runs a chi-square test on the grouped independent variable and the dependent variable. This process is repeated for each possible combination of the predictor variables. The dichotomized predictor variable with the highest level of significant association with the dependent variable is selected as the first level. This process is then repeated within the level-1 subgroups.

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[1] The values 1.5 and 15 are a historical rule-of-thumb used to identify cells that require collapsing.

[2] Unit nonresponse occurs when a respondent fails to respond to all required response items (i.e., fill out or return a survey instrument).

The algorithm continues to partition the data at subsequent levels until either no remaining significant chi-square test is found or the predefined minimum cell size has been reached.

The result of the algorithm is a decision tree, wherein each case is sorted through the tree until reaching the terminal "leaf" (i.e., weighting class cell). The cases within each mutually exclusive cell are comparable with respect to the dependent variable, after being divided by differences in the explanatory variables. If a response indicator is used as the dependent variable, then the cases in each cell have similar response propensities given the predictor variables used in the model. Thus, the resulting cells can be used to develop weighting class adjustments to reduce bias associated with nonresponse.

Note that because the CHAID algorithm evaluates different classifications of the predictor variables, a cell collapsing scheme is implemented though it differs from the procedure discussed for the previous TFS weighting methodology (see Previous Method Used for TFS Nonresponse Adjustments section). The goal of cell collapsing in CHAID is to determine the combination with the highest significant relation with response rather than finding cells that should be collapsed due to large NIAF or small cell sizes.

Justification for CHAID

There are two advantages of using CHAID to produce nonresponse weighting cells. The first is the general method CHAID uses to produce nonresponse weighting cells. CHAID uses statistical tests to determine associations with patterns of nonresponse experienced in the data, which can then be used to define nonresponse weighting cells used to produce the NIAF. In contrast, the previous weighting method assumed certain associations with nonresponse without reference to the data. Therefore, CHAID-produced nonresponse weighting class cells should model nonresponse more effectively than the previous method.

The second advantage of CHAID is its dynamic nature. CHAID can be used to produce new models of nonresponse for each survey collection instead of relying on a single model used for all TFS. Therefore, CHAID is much more likely to discover and accommodate changes in patterns of nonresponse in the frame variables between different survey collections. For example, if nonresponse differed significantly across age groups in one survey year, CHAID would determine this relationship and make appropriate divisions in the data. However, if in a subsequent data collection nonresponse does not significantly differ across age groups, CHAID will drop age from the model. The previous method assumed fixed relationships and would include age in the nonresponse weighting cells for both data collections. Thus, the dynamic nature of CHAID allows for more precise modeling of nonresponse for each data collection and will produce different weighting classes each time.

CHAID Analysis

Candidate Weighting Class Variables

The variables used in the CHAID model were chosen from two sources: the 2004–05 TFS bias analysis (Cox et al. 2007) and the 2003–04 SASS teacher data. The variables used in the 2004–05 TFS bias analysis were identified as being important to the examination of unit nonresponse. All 2004–05 TFS sample members were selected from the set of public and private school respondents to the 2003–04 SASS teacher questionnaires.

Before running the CHAID algorithm, pair-wise correlations were produced for all candidate predictor variables. This included the variables originally used in the 2004–05 TFS bias analysis, as well as all 2003–04 SASS teacher survey, frame, and created variables. The correlation of these variables with responses to survey items and key variables (e.g., TFS status, urbanicity, school level, region, etc.) were

examined. A variable was identified as a candidate for the CHAID model if the predictor variable pair had a correlation greater than 0.7. Of the initial 370 variables tested, 13 were identified for inclusion in the CHAID model.

Exhibit K-2 presents the final predictor variables included in the CHAID analysis. The teacher's type of certification was initially included, but was later dropped because the CHAID algorithm did not make any divisions with this variable. In other words, the teacher's type of certification was unrelated to nonresponse after considering the other predictor variables.

Exhibit K-2. Independent variables used in the CHAID model with the 2004–05 TFS data

---

AGE – Teacher's TFS age
     TFS created variable
          1 = Less than 30
          2 = 30–39
          3 = 40–49
          4 = 50–64
          5 = 65 or higher
ASSIGN03 – 2003–04 General field of SASS main teaching assignment
     Pulled from the SASS public and private school teacher data files
          1 = Early Childhood/General Elementary
          2 = Special Education
          3 = Arts/Music
          4 = English/Language Arts
          5 = ESL/Bilingual Education
          6 = Foreign Languages
          7 = Health/Physical Education
          8 = Mathematics
          9 = Natural Sciences
          10 = Social Sciences
          11 = Vocational/Technical Education
          12 = All Others
HIDEGR_S – SASS highest degree earned
     TFS created variable
          1 = Associate's degree or no college degree
          2 = Bachelor's degree
          3 = Master's degree
          4 = Education specialist
          5 = Doctorate or professional degree
MINENR1 – Percent enrollment of students of race/ethnicities other than non-Hispanic White in SASS school
     Coded from MINENR from the SASS public and private school teacher data files
          1 = Less than 5 percent
          2 = 5–9.9 percent
          3 = 10–24.9 percent
          4 = 25–49.9 percent
          5 = 50 percent or more
RACE – Teacher's race/ethnicity
     Code from RACETH_T
          1 = Hispanic
          2 = Asian, non-Hispanic
          3 = Black, non-Hispanic
          4 = American Indian/Alaska Native, non-Hispanic
          5 = White, non-Hispanic
          6 = Two or more races, non-Hispanic
REGION – SASS Census region, based on FIPS state code
     TFS frame variable
          1 = Northeast
          2 = Midwest
          3 = South
          4 = West

See notes at end of exhibit.

Exhibit K-2. Independent variables used in the CHAID model with the 2004–05 TFS data—Continued

SCHLEVEL – SASS three-category school level
    TFS frame variable
        1 = Elementary
        2 = Secondary
        3 = Combined
SCHSIZE – Number of students in SASS school
    Pulled from the SASS public and private school teacher data files
        1 = 1–49
        2 = 50–99
        3 = 100–149
        4 = 150–199
        5 = 200–349
        6 = 350–499
        7 = 500–749
        8 = 750–999
        9 = 1,000–1,199
        10 = 1,200–1,499
        11 = 1,500–1,999
        12 = 2,000 or more
STYPE – SASS school type
    Coded from TFS frame variables SECTOR and CHARFLAG
        1 = Traditional public
        2 = Public charter
        3 = Private
STTUS_TF – TFS teacher status
    TFS created variable
        1 = Leaver
        2 = Stayer
        3 = Mover
T0030 – SASS Teacher main activity last year
    Pulled from the SASS public and private school teacher data files
        1 = Teaching in this school
        2 = Teaching in another public elementary or secondary school IN THIS SCHOOL SYSTEM
        3 = Teaching in a public elementary or secondary school IN A DIFFERENT SCHOOL SYSTEM
            IN THIS STATE
        4 = Teaching in a public elementary or secondary school IN ANOTHER STATE
        5 = Teaching in a PRIVATE elementary or secondary school
        6 = Student at a college or university
        7 = Teaching in a preschool
        8 = Teaching at a college or university
        9 = Working in a position in the field of education, but not as a teacher
        10 = Working in an occupation outside the field of education
        11 = Caring for family members
        12 = Military service
        13 = Unemployed and seeking work
        14 = Retired from another job
        15 = Other
T0408 – Teacher's sex
    Pulled from the SASS public and private school teacher data files
        1 = Male
        2 = Female

See notes at end of exhibit.

Exhibit K-2. Independent variables used in the CHAID model with the 2004–05 TFS data—Continued

URBANS03 – Urbanicity of the SASS school
       TFS frame variable
              1 = Large or mid-size central city
              2 = Urban fringe of a large or mid-size central city
              3 = Small town/rural

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Teacher Follow-up Survey (TFS), 2004–05.

CHAID Results

The number of weighting class cells is associated with bias reduction and with the variation in the weight adjustments. While controlling for a large number of predictors can greatly reduce the associated nonresponse bias, an increase in the number of weight adjustments can increase the variability of the final weights and thus increase estimated standard error. Additionally, researchers should be wary of producing cells with too few sample members that can produce unstable response propensity estimates. Reducing the number of cells decreases the variation in the weight adjustments at the expense of reducing bias.

To evaluate the sensitivity of the minimum cell size, the CHAID model was run twice, once with a minimum cell size of 20 and once with a minimum cell size of 50. Even though the specific values were arbitrary, the cell sizes of 20 and 50 cases were chosen to compare the efficiency of the nonresponse weighting cells in reducing nonresponse bias and maintaining a low variance of the weights. The minimum cell size is a user-defined parameter in the CHAID model that sets the lowest allowable sample size in cells that can be used by the algorithm when making divisions in the data. If any significant division creates a cell with less than the minimum size, that division is rejected by the algorithm.

Tables K-1 and K-2 contain the nonresponse weighting cell sizes produced by CHAID with minimum cell sizes of 20 and 50, respectively. They also include the unweighted and base-weighted response rates within each cell. Each cell is defined by some unique combination of values for all 13 predictor variables included in the CHAID model (see exhibit K-2).

Table K-1.   Unweighted cell sizes and within cell response rates for CHAID-produced nonresponse weighting cells with a minimum cell size of 20: 2004–05

Nonresponse weighting cell	Unweighted cell size	Unweighted response rate	Base-weighted response rate
1	35	91.4	96.3
2	32	68.8	76.6
3	985	97.1	97.2
4	637	95.4	92.9
5	134	94.0	94.3
6	50	80.0	74.7
7	71	88.7	94.3
8	1,368	92.6	93.2
9	21	71.4	91.1
10	77	89.6	93.1

See notes at end of table.

Table K-1.   Unweighted cell sizes and within cell response rates for CHAID-produced nonresponse weighting cells with a minimum cell size of 20: 2004–05—Continued

Nonresponse weighting cell	Unweighted cell size	Unweighted response rate	Base-weighted response rate
11	50	100.0	100.0
12	28	89.3	98.9
13	51	72.5	71.2
14	313	96.8	96.4
15	24	100.0	100.0
16	43	81.4	70.1
17	464	93.5	92.6
18	21	76.2	90.0
19	339	92.3	91.7
20	328	84.1	85.2
21	166	95.2	95.4
22	27	92.6	97.9
23	26	69.2	78.6
24	386	92.2	93.8
25	52	80.8	80.3
26	99	100.0	100.0
27	45	97.8	97.2
28	48	87.5	87.4
29	42	97.6	99.1
30	322	84.8	85.5
31	37	56.8	62.0
32	33	84.8	86.6
33	161	77.6	78.9
34	166	88.6	91.0
35	22	54.5	56.3
36	561	90.4	86.5
37	87	97.7	96.5
38	33	87.9	86.9
39	84	95.2	96.7
40	191	82.7	83.3
41	42	61.9	68.7
42	27	55.6	33.9
43	67	82.1	93.3
44	28	78.6	88.6
45	108	99.1	98.6
46	98	88.8	75.2
47	113	87.6	88.5
48	26	65.4	32.1

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Data File," 2003–04, and Teacher Follow-up Survey (TFS), "Current and Former Teacher Documentation Data Files," 2004–05.

Table K-2.   Unweighted cell sizes and within cell response rates for CHAID-produced nonresponse weighting cells with a minimum cell size of 50: 2004–05

Nonresponse weighting cell	Unweighted cell size	Unweighted response rate	Base-weighted response rate
1	67	80.6	87.0
2	985	97.1	97.2
3	637	95.4	92.9
4	134	94.0	94.3
5	50	80.0	74.7
6	71	88.7	94.3
7	79	78.5	77.7
8	1,368	92.6	93.2
9	93	84.9	92.6
10	55	100.0	100.0
11	313	96.8	96.4
12	67	88.1	94.8
13	606	93.7	95.4
14	163	93.3	90.0
15	74	94.6	96.3
16	85	91.8	89.6
17	116	79.3	76.8
18	103	95.1	98.1
19	81	82.7	80.6
20	52	90.4	96.1
21	91	74.7	64.7
22	386	92.2	93.8
23	52	80.8	80.3
24	99	100.0	100.0
25	93	92.5	92.4
26	364	86.3	87.3
27	70	70.0	75.4
28	188	84.6	86.6
29	161	77.6	78.9
30	120	95.0	94.6
31	561	90.4	86.5
32	84	95.2	96.7
33	191	82.7	83.3
34	213	82.2	87.8
35	63	66.7	69.2
36	88	84.1	74.8
37	77	98.7	98.0
38	68	89.7	69.2

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Data File," 2003–04, and Teacher Follow-up Survey (TFS), "Current and Former Teacher Documentation Data Files," 2004–05.

Comparison of Previous and CHAID Weighting Cells

The CHAID methods produce fewer weighting cells than the previous method used for TFS because of the minimum cell sizes used in the evaluation. After the collapsing routine for the previous method was completed (see Previous Method Used for TFS Nonresponse Adjustment section), a total of 270 weighting cells were formed. In contrast, the CHAID nonresponse models include 48 and 38 total nonresponse weighting cells, for minimum cell sizes of 20 and 50, respectively.

The difference in the number of weighting cells can be more clearly seen when comparing particular characteristics used in the two models. The previous nonresponse weighting cell tables initially selected teachers by their school sector, experience, and TFS status. The teachers were then sorted into specific weighting cells by their sex, education, and age. Thus, the previous method for computing NIAF assumes that each of these characteristics is related to nonresponse. The two CHAID models used here also includes all these variables except for years of teaching experience, since initial correlation tests found that experience and age were highly correlated. In addition to the variables used in the original weighting tables, the CHAID model also found that the teacher's general field of main teaching assignment, the teacher's school minority enrollment, the teacher's race, region, school level, school size, the teacher's main assignment the current year, and the school's urbanicity are also related to teacher nonresponse. Thus, the CHAID models provide a more detailed picture of groups of teachers with similar response rates.

Several predictor variables were used in both the original TFS weighting classes and the CHAID weighting classes. However, as noted above, the collapsing schemes for these variables differed. For school sector, the majority of cells have 1) only public school teachers, 2) public charter school teachers grouped with private school teachers, or 3) all three sectors combined. The previous TFS weighting methodology grouped traditional public and public charter school teachers together separately from the private school teachers. Thus, results from the CHAID model indicate that public charter and private school teachers are more alike in patterns of nonresponse than traditional public and public charter school teachers.

The employment status of the teacher at the time of the survey is also used differently in the CHAID model than in the previous TFS weighting classes. Employment status is defined as the teacher works at the same school selected for SASS (stayer), moved to a different school (mover), or left the teaching profession (leaver). The previous method separated leavers, stayers, and movers into separate tables. However, both CHAID models predominantly separate leavers and groups stayers and movers together, although both models also have cells that include all three statuses. This indicates that TFS status is not related to nonresponse for all teachers in 2004–05.

Only a few of the CHAID-produced nonresponse weighting cells in either minimum-cell model dichotomize teachers by sex. Almost all of the nonresponse weighting cells in both models include both males and females. This shows, based on the CHAID models, that sex is not strongly related to nonresponse in 2004–05. The previous nonresponse weighting tables separated all cells by sex, so the CHAID-produced nonresponse weighting cells give much less importance to sex than the previous tables.

The previous nonresponse weighting tables separated teachers with a "Bachelor's degree or less" from those with a "Master's degree or more." In contrast, the CHAID-produced nonresponse weighting cells often do not separate teachers by education level, and where they do "Bachelor's degree" is often grouped with the higher degree levels, rather than with "Associate's degree or no college degree."

Finally, the CHAID-produced nonresponse weighting cells group teachers into cells with larger age ranges than the previous nonresponse weighting tables. The CHAID-produced cells commonly include all

age ranges or large ranges (e.g., 65 years of age or less). The previous nonresponse tables used small age ranges, often as little as 1- or 2-year ranges (e.g., "24–25" years of age). Thus, using the CHAID algorithm results, response does not differ between the small age ranges used in the previous tables. This, along with the inclusion of both sexes in most of the cells, helps explain the fewer number of weighting classes defined by CHAID versus the number used in the previous method.

Noninterview Adjustment Factor (NIAF)

Function of NIAF in the TFS Analysis Weights

The noninterview adjustment factor (NIAF) is used to adjust the weights for the 2004–05 TFS participants to account for the portion of the sample that did not respond to the survey request, which should limit the detectable levels of bias in the variables known for both respondents and nonrespondents. All traditional public, public charter, and private school teachers who were interviewed in the 2003–04 SASS were eligible[3] for the TFS sample. Of the 8,168 teachers selected for the 2004–05 TFS, 739 teachers (9 percent) did not respond to the TFS survey.

The NIAF is the weighted ratio of the total eligible teachers to the total responding eligible teachers. The weight used in this calculation is the product of the *TFS base weight* (TFSBWGT) and the TFS-to-SASS weighting adjustment factor (SWADJF). For brevity, we will label this weight the TFS base weight. For more information on 2004–05 TFS weights see the *Documentation for the 2004–05 Teacher Follow-up Survey* (Cox et al. 2007). For nonresponse weighting cell i, the formula for NIAF is:

$$\mathbf{NIAF_i} = \frac{\mathbf{WIC_i + WNIC_i}}{\mathbf{WIC_i}},$$

where WIC_i is the weighted interview count for cell i and $WNIC_i$ is the weighted noninterview count for cell i.

Comparison of Previous and Revised NIAF Values

Table K-3 displays descriptive statistics of the NIAF produced using the previous methodology and the CHAID with minimum cell sizes of 20 and 50. All three versions of the NIAF show little difference for these statistics, the only exception being the highest value for NIAF produced by CHAID with minimum cell size 20.

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[3] Teachers sampled for TFS who were deceased, had moved out of the United States, or had never been teachers (i.e., incorrectly completed the 2003–04 SASS teacher questionnaire) were determined to be out of scope for the survey. For more information, see the *Documentation for the 2004–05 Teacher Follow-up Survey* (Cox et al. 2007).

Table K-3.   Comparison of noninterview adjustment factors (NIAF) produced using the previous nonresponse weighting tables and CHAID: 2004–05

Noninterview adjustment factors	Mean	Median	Lowest value	Highest value
NIAF produced using previous nonresponse weighting tables	1.11	1.10	1.00	1.47
CHAID-produced NIAF, minimum cell size = 20	1.11	1.08	1.00	3.44
CHAID-produced NIAF, minimum cell size = 50	1.11	1.08	1.00	1.71

NOTE: Minimum cell size refers to the minimum allowed cell size used in the CHAID algorithm to define nonresponse weighting cells. Divisions that created cell sizes smaller than the allowed amount were rejected by the algorithm.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public and Private School Teacher Data Files," 2003–04, and Teacher Follow-up Survey (TFS), "Current and Former Teacher Documentation Data Files," 2004–05.

In addition to descriptive statistics, a design effect (*deff*) is computed to quantify the effect of the NIAF on the estimates. Calculated as the ratio of the variance of an estimate accounting for the complex design to the variance under an assumed simple random sampling design, *deff* can be interpreted as the inflation in the variance of an estimate due to the TFS complex sample design, the variation in the analysis weights, and characteristics of the estimate used in the calculation. Considering that the difference between the three weighting methodologies under investigation is associated only with the variation in the NIAF, the NIAF with the lowest *deff* (also referred to as an unequal weighting effect) is generally preferred.

Table K-4 displays the *deffs* for the three sets of NIAF values by school and teacher characteristics. Percent relative differences (last two columns on the right) show the percentage change for both of the CHAID-produced NIAFs relative to the previous NIAF. For example, the *deff* for central city school teachers is 3.63 with the previous NIAF and 3.60 with CHAID-produced NIAF with minimum cell size of 20. In terms of percent relative difference, the *deff* for the CHAID-produced NIAF was 0.85 percent smaller than the *deff* for the previous NIAF. A positive percent relative difference indicates that the *deff* of the relevant NIAF was larger than the *deff* of the previous NIAF.

The differences in the *deffs* between the previous methodology and CHAID are similar. The *deff* "teaching in a preschool" for NIAF produced by CHAID with minimum cell size of 20 is at least five percentage points greater than the *deff* for the previous NIAF, while the *deff* for this same characteristic and the *deff* for "working in education, but not as a teacher" are at least five percentage points greater for NIAF produced by CHAID with minimum cell size of 50. Likewise, the *deff* "retired from another job" for NIAF produced by CHAID with minimum cell size of 20 is at least five percentage points less than the *deff* for the previous NIAF, while the *deff* for this same characteristic and the *deff* for "American Indian/Alaska Native, non Hispanic" are at least five percentage points less for NIAF produced by CHAID with minimum cell size of 50. Of the 77 design effects calculated for each type of NIAF, 47 (61 percent) were smaller for one or both of the CHAID-produced NIAFs. Thus, using CHAID to produce NIAF reduced the design effect for the majority of estimates included in the analysis.

Table K-4. Design effects and percent relative differences of design effects for the TFS adjusted weight using the previous nonresponse adjustment factor and CHAID-produced nonresponse adjustment factors, by school and teacher characteristics: 2004–05

School and teacher characteristic	Previous nonresponse adjusted weight	CHAID nonresponse-adjusted weight		Percent relative difference[1]	
		Minimum cell size of 20	Minimum cell size of 50	Minimum cell size of 20	Minimum cell size of 50
School sector					
Traditional public	3.0171	3.0162	3.0186	-0.03	0.05
Public charter	1.7488	1.7826	1.7553	1.93	0.37
Private	2.2774	2.3143	2.3220	1.62	1.96
Community type					
Central city	3.6261	3.5952	3.6312	-0.85	0.14
Urban fringe/large town	3.1984	3.1999	3.1961	0.05	-0.07
Rural/small town	3.8661	3.8757	3.8713	0.25	0.13
Region					
Northeast	3.1255	3.1199	3.1600	-0.18	1.10
Midwest	3.4781	3.4597	3.4556	-0.53	-0.65
South	3.1922	3.1948	3.1805	0.08	-0.37
West	4.3141	4.2510	4.2572	-1.46	-1.32
Student enrollment					
Less than 200	4.3307	4.3454	4.3712	0.34	0.93
200–349	3.7866	3.7401	3.7515	-1.23	-0.93
350–499	2.9878	2.9855	2.9894	-0.08	0.05
500–749	2.9921	2.9820	2.9826	-0.34	-0.32
750 or more	2.9701	2.9676	2.9734	-0.09	0.11
Percent enrollment of all race/ethnicities other than White, non-Hispanic					
Less than 10 percent	3.3976	3.4334	3.4290	1.05	0.92
10–34 percent	3.4630	3.4469	3.4446	-0.46	-0.53
35 percent or more	3.4560	3.4281	3.4416	-0.81	-0.42
Teacher grade level					
Primary	3.2195	3.1949	3.2100	-0.76	-0.29
Middle	3.4505	3.4735	3.4725	0.67	0.64
High	3.7152	3.7214	3.7187	0.17	0.10
Combined	3.9924	3.8847	3.8973	-2.70	-2.38
Teacher's sex					
Male	3.4872	3.5472	3.5779	1.72	2.60
Female	3.4305	3.4085	3.4067	-0.64	-0.69
Teacher experience					
New	2.3039	2.2971	2.3177	-0.30	0.60
Experienced	3.3438	3.3306	3.3392	-0.39	-0.14
Teacher status					
Leaver	5.9584	5.7868	6.1576	-2.88	3.34
Stayer	1.8063	1.8012	1.8000	-0.29	-0.35
Mover	2.5235	2.5954	2.6288	2.85	4.17

See notes at end of table.

Table K-4.   **Design effects and percent relative differences of design effects for the TFS adjusted weight using the previous nonresponse adjustment factor and CHAID-produced nonresponse adjustment factors, by school and teacher characteristics: 2004–05— Continued**

School and teacher characteristic	Previous nonresponse adjusted weight	CHAID nonresponse-adjusted weight		Percent relative difference[1]	
		Minimum cell size of 20	Minimum cell size of 50	Minimum cell size of 20	Minimum cell size of 50
Teacher's age					
Less than 30	3.2678	3.3428	3.3895	2.29	3.72
30–39	3.6231	3.5663	3.5738	-1.57	-1.36
40–49	2.9092	2.9532	2.9722	1.51	2.16
50–64	3.5706	3.5261	3.5147	-1.25	-1.57
65 or more	4.1460	3.9909	3.9790	-3.74	-4.03
Teacher's race/ethnicity					
Hispanic, any race	4.3022	4.0973	4.1616	-4.76	-3.27
Asian or Pacific Islander, non-Hispanic	5.8495	5.7710	5.7356	-1.34	-1.95
Black, non-Hispanic	3.6693	3.6352	3.6263	-0.93	-1.17
American Indian/Alaska Native, non-Hispanic	5.3970	5.2717	5.1147	-2.32	-5.23
White, non-Hispanic	3.3087	3.3165	3.3191	0.23	0.31
Two or more races, non-Hispanic	4.0895	4.2815	4.2279	4.70	3.38
Teacher main activity last year					
Teaching in this school	3.2575	3.2545	3.2550	-0.09	-0.08
Teaching in another school in this school system	3.5439	3.5102	3.4905	-0.95	-1.51
Teaching in another school system	3.5644	3.6357	3.6109	2.00	1.30
Teaching in another state	3.7291	3.7495	3.7803	0.55	1.37
Teaching in a private school	4.7332	4.6326	4.6580	-2.13	-1.59
Student at a college or university	2.3688	2.3705	2.4086	0.07	1.68
Teaching in a preschool	2.3374	2.5521	2.4848	9.19	6.31
Teaching at a college or university	2.7053	2.7325	2.7125	1.01	0.27
Working in education, but not as a teacher	3.2771	3.4040	4.2177	3.87	28.70
Working in an occupation outside of education	2.8249	2.8309	2.8380	0.21	0.47
Caring for family members	3.2089	3.2313	3.3612	0.70	4.74
Military service	1.2272	1.2694	1.2694	3.43	3.43
Unemployed and seeking work	4.4658	4.4022	4.5037	-1.42	0.85
Retired from another job	2.0178	1.7718	1.7849	-12.19	-11.54
Other	3.6964	3.6911	3.6759	-0.14	-0.56
Teacher main assignment					
Early childhood/general elementary	3.3166	3.2894	3.3082	-0.82	-0.26
Special education	3.3251	3.3234	3.3174	-0.05	-0.23
Arts/music	3.5171	3.5538	3.5400	1.04	0.65
English/language Arts	3.5737	3.5541	3.5234	-0.55	-1.41
ESL/bilingual education	4.0648	4.1078	4.1511	1.06	2.12
Foreign languages	3.5516	3.5234	3.5852	-0.80	0.94
Health/physical education	3.2785	3.3211	3.3294	1.30	1.55
Mathematics	3.5247	3.5285	3.5293	0.11	0.13
Natural science	3.3497	3.3423	3.3522	-0.22	0.08
Social sciences	3.4065	3.4718	3.4727	1.92	1.94

See notes at end of table.

Table K-4. **Design effects and percent relative differences of design effects for the TFS adjusted weight using the previous nonresponse adjustment factor and CHAID-produced nonresponse adjustment factors, by school and teacher characteristics: 2004–05— Continued**

School and teacher characteristic	Previous nonresponse adjusted weight	CHAID nonresponse-adjusted weight		Percent relative difference[1]	
		Minimum cell size of 20	Minimum cell size of 50	Minimum cell size of 20	Minimum cell size of 50
Teacher main assignment—Continued					
Vocational/technical education	3.8948	3.8980	3.8906	0.08	-0.11
All others	3.8639	3.8070	3.8481	-1.47	-0.41
Teacher's highest degree					
Associate's degree/no college degree	5.4680	5.5687	5.5317	1.84	1.16
Bachelor's degree	3.3624	3.3700	3.3529	0.23	-0.28
Master's degree	3.3203	3.2965	3.3223	-0.72	0.06
Education specialist	3.3632	3.3086	3.3194	-1.62	-1.30
Doctorate or professional degree	2.8575	2.7936	2.8101	-2.24	-1.66
Teacher's class organization					
Departmentalized instruction	3.5360	3.5494	3.5425	0.38	0.18
Elementary enrichment class	3.6175	3.5927	3.6315	-0.69	0.39
Self-contained class	3.3271	3.2969	3.3162	-0.91	-0.33
Team teaching	3.7126	3.8180	3.8341	2.84	3.27
Pull-out class	3.2001	3.1992	3.1850	-0.03	-0.47

[1] Percent relative difference is difference between the CHAID-produced NIAF design effect and the previous NIAF design effect, divided by the previous NIAF design effect. This shows the difference between these two values on a percentage scale.

NOTE: Minimum cell size refers to the minimum allowed cell size used in the CHAID algorithm to define nonresponse weighting cells. Divisions that created cell sizes smaller than the allowed amount were rejected by the algorithm. Design effect is the ratio of the variance of an estimate under the complex design used here to the variance using a simple random sample. Design effect can be interpreted as the inflation in the variance of an estimate due to the complex sample design.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public and Private School Teacher Data Files," 2003–04, and Teacher Follow-up Survey (TFS), "Current and Former Teacher Documentation Data Files," 2004–05.

In addition to design effects, relative standard errors were computed to compare the precision of several survey estimates. A relative standard error is defined as the standard error of an estimate divided by the estimate, and multiplied by 100. Relative standard errors allow direct comparison between each version of NIAF and show which version produces the lowest standard errors (i.e., better precision) for each estimate in the table. For example, among teachers in central cities, the relative standard error for the previous NIAF was 3.46 and 3.43 for the CHAID-produced NIAF with minimum cell size of 50. The percent relative difference for these two values shows that the relative standard error for the CHAID-produced NIAF was .71 percent less than the relative standard error for the previous NIAF.

Table K-5 shows many differences between the relative standard errors from the CHAID-produced NIAF and the previous NIAF. "Working in education, but not as a teacher" is the only estimate (CHAID cell size of 50) with a relative standard error at least five percentage points greater than the standard error of the previous NIAF. Likewise, "retired from another job" was the only estimate whose relative standard error based on the CHAID-produced NIAF (minimum cell size of 20 and 50) was five percentage points lower than the relative standard error of the estimate using the previous NIAF. Overall, of the 77 relative standard errors calculated for each version of the NIAF, 43 (55.8 percent) were smaller using one of the

two CHAID-produced versions than the previous NIAF. Thus, using CHAID to produce the NIAF reduced the size of standard errors for the majority of estimates in table K-5.

Table K-5.   Relative standard errors and percent relative differences for estimates produced using the previous nonresponse and CHAID-produced nonresponse adjusted weights, by school and teacher characteristics: 2004–05

School and teacher characteristic	Previous nonresponse adjustment factor	CHAID-produced nonresponse adjustment factor		Percent relative difference[1]	
		Minimum cell size of 20	Minimum cell size of 50	Minimum cell size of 20	Minimum cell size of 50
School sector					
Traditional public	0.2209	0.2273	0.2258	2.93	2.24
Public charter	3.8583	3.9240	3.8774	1.70	0.50
Private	1.4619	1.4950	1.4914	2.26	2.02
Community type					
Central city	3.4580	3.4381	3.4334	-0.57	-0.71
Urban fringe/large town	2.0869	2.0799	2.0896	-0.33	0.13
Rural/small town	4.7223	4.7446	4.7407	0.47	0.39
Region					
Northeast	4.5669	4.5024	4.5215	-1.41	-0.99
Midwest	3.9544	3.9988	3.9955	1.12	1.04
South	2.9060	2.9143	2.9151	0.29	0.31
West	4.8888	4.8631	4.8530	-0.52	-0.73
Student enrollment					
Less than 200	5.0953	5.1137	5.1253	0.36	0.59
200–349	5.5220	5.4949	5.5040	-0.49	-0.32
350–499	4.5197	4.5302	4.5321	0.23	0.27
500–749	4.1039	4.1093	4.1093	0.13	0.13
750 or more	2.8512	2.8221	2.8186	-1.02	-1.14
Percent enrollment of all race/ethnicities other than White, non-Hispanic					
Less than 10 percent	3.2928	3.3180	3.3110	0.77	0.55
10–34 percent	3.6582	3.6473	3.6529	-0.30	-0.15
35 percent or more	2.4642	2.4520	2.4376	-0.50	-1.08
Teacher grade level					
Primary	1.8336	1.8346	1.8398	0.06	0.34
Middle	2.8376	2.8277	2.8362	-0.35	-0.05
High	1.6265	1.6071	1.6117	-1.20	-0.91
Combined	20.0436	19.7733	19.8052	-1.35	-1.19
Teacher's sex					
Male	3.5940	3.5977	3.6248	0.10	0.86
Female	1.1432	1.1703	1.1723	2.38	2.55

See notes at end of table.

Table K-5.   Relative standard errors and percent relative differences for estimates produced using the previous nonresponse and CHAID-produced nonresponse adjusted weights, by school and teacher characteristics: 2004–05—Continued

School and teacher characteristic	Previous nonresponse adjustment factor	CHAID-produced nonresponse adjustment factor		Percent relative difference[1]	
		Minimum cell size of 20	Minimum cell size of 50	Minimum cell size of 20	Minimum cell size of 50
Teacher experience					
New	2.1188	2.1187	2.1241	0.00	0.25
Experienced	0.4411	0.4360	0.4398	-1.15	-0.29
Teacher status					
Leaver	4.4726	4.3940	4.5317	-1.76	1.32
Stayer	0.5392	0.5359	0.5493	-0.60	1.88
Mover	3.2115	3.2638	3.2868	1.63	2.34
Teacher's age					
Less than 30	3.8500	3.8925	3.9100	1.10	1.56
30–39	3.9634	3.9398	3.9399	-0.60	-0.59
40–49	3.7037	3.7209	3.7279	0.46	0.65
50–64	3.1923	3.1851	3.1909	-0.23	-0.04
65 or more	18.3687	18.0356	18.0073	-1.81	-1.97
Teacher's race/ethnicity					
Hispanic, any race	10.1283	9.8920	9.9296	-2.33	-1.96
Asian or Pacific Islander, non-Hispanic	16.5432	16.4182	16.3383	-0.76	-1.24
Black, non-Hispanic	6.2838	6.2418	6.2437	-0.67	-0.64
American Indian/Alaska Native, non-Hispanic	22.0760	21.7750	21.4094	-1.36	-3.02
White, non-Hispanic	0.4941	0.4855	0.4974	-1.73	0.67
Two or more races, non-Hispanic	19.2958	19.7249	19.6162	2.22	1.66
Teacher main activity last year					
Teaching in this school	0.8388	0.8333	0.8372	-0.65	-0.19
Teaching in another school in this school system	9.8963	9.8591	9.8349	-0.38	-0.62
Teaching in another school system	11.8606	11.9735	11.9305	0.95	0.59
Teaching in another state	21.0627	21.1137	21.2037	0.24	0.67
Teaching in a private school	20.0758	19.8630	19.9176	-1.06	-0.79
Student at a college or university	7.4224	7.4223	7.4844	0.00	0.84
Teaching in a preschool	30.1819	31.5212	31.1103	4.44	3.08
Teaching at a college or university	38.0565	38.2500	38.1130	0.51	0.15
Working in education, but not as a teacher	12.3423	12.5772	13.9884	1.90	13.34
Working in an occupation outside of education	11.4658	11.4790	11.4861	0.12	0.18
Caring for family members	17.7761	17.8342	18.1893	0.33	2.32
Military service	74.6156	75.3179	75.3189	0.94	0.94
Unemployed and seeking work	38.6565	38.3889	38.8318	-0.69	0.45
Retired from another job	28.1254	26.3921	26.4875	-6.16	-5.82
Other	15.7584	15.7476	15.7164	-0.07	-0.27

See notes at end of table.

Table K-5. Relative standard errors and percent relative differences for estimates produced using the previous nonresponse and CHAID-produced nonresponse adjusted weights, by school and teacher characteristics: 2004–05—Continued

School and teacher characteristic	Previous nonresponse adjustment factor	CHAID-produced nonresponse adjustment factor		Percent relative difference[1]	
		Minimum cell size of 20	Minimum cell size of 50	Minimum cell size of 20	Minimum cell size of 50
Teacher main assignment					
Early childhood/general elementary	2.3077	2.3055	2.3123	-0.09	0.20
Special education	5.8843	5.8798	5.8764	-0.08	-0.13
Arts/music	7.9580	8.0006	7.9848	0.54	0.34
English/language arts	6.3065	6.2963	6.2751	-0.16	-0.50
ESL/bilingual education	22.5241	22.6411	22.7609	0.52	1.05
Foreign languages	11.9127	11.8573	11.9614	-0.47	0.41
Health/physical education	8.7951	8.8368	8.8537	0.47	0.67
Mathematics	7.1315	7.1341	7.1414	0.04	0.14
Natural science	7.8690	7.8631	7.8793	-0.08	0.13
Social sciences	8.2198	8.2859	8.2904	0.80	0.86
Vocational/technical education	9.6562	9.6504	9.6441	-0.06	-0.12
All others	12.4237	12.3354	12.4031	-0.71	-0.17
Teacher's highest degree					
Associate's degree/no college degree	12.8488	12.9691	12.9261	0.94	0.60
Bachelor's degree	2.0922	2.1025	2.1042	0.49	0.57
Master's degree	2.6983	2.6818	2.6820	-0.61	-0.61
Education specialist	9.1064	9.0340	9.0543	-0.80	-0.57
Doctorate or professional degree	16.8988	16.7065	16.7539	-1.14	-0.86
Teacher's class organization					
Departmentalized instruction	1.7802	1.7619	1.7674	-1.03	-0.72
Elementary enrichment class	7.4206	7.3942	7.4322	-0.36	0.16
Self-contained class	2.4766	2.4822	2.4889	0.23	0.50
Team teaching	12.7202	13.0156	13.0532	2.32	2.62
Pull-out class	6.5903	6.5818	6.5655	-0.13	-0.38

[1] Percent relative difference is difference between the CHAID-produced NIAF relative standard errors and the previous NIAF relative standard error, divided by the previous NIAF relative standard error. This shows the difference between these two values on a percentage scale.

NOTE: Relative standard error is defined as the standard error divided by the estimate, times 100.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Data File," 2003–04, and Teacher Follow-up Survey (TFS), "Current and Former Teacher Documentation Data Files," 2004–05.

Unit Nonresponse Bias Analysis

Because the primary function of the NIAF in weighting is to account for nonresponse, a unit nonresponse bias analysis was performed using the TFS *base* weight adjusted with each version of NIAF. A comparison of the results was used to identify the methodology most effective in mitigating the levels of nonresponse bias detected for estimates calculated with the (unadjusted) TFS *base* weight for the

respondents. For more information on the original bias analysis, please see *Documentation for the 2004–05 Teacher Follow-up Survey* (Cox et al. 2007).

As outlined in appendix B of the *NCES Statistical Standards* (2003), the degree of nonresponse bias is a function of two factors: the nonresponse rate and how much the respondents and nonrespondents differ on survey variables of interest (see also Groves 1989, chapter 4). The role of the NIAF is to reduce the differences between the responding population and the sample population resulting from nonresponse. The mathematical formulation to estimate bias for a sample mean of variable y is:

$$B(\bar{y}_R) = \bar{y}_R - \bar{y}_T = \left(\frac{n_M}{n_T}\right)(\bar{y}_R - \bar{y}_M)$$

where

$\bar{y}_T$ = the estimated mean based on all sample cases

$\bar{y}_R$ = the estimated mean based only on respondent cases

$\bar{y}_M$ = the estimated mean based only on nonrespondent cases

n_T = the estimated number of cases (i.e., $n_T = n_R + n_M$)

n_M = the estimated number of nonrespondents

n_R = the estimated number of respondents

A variable-free estimate of the bias, referred to as a relative bias, was used to compare biases across all variables included in the analysis. The relative bias for an estimated mean using only the respondent data, $\bar{y}_R$, is calculated using the following formula:

$$RelB(\bar{y}_R) = \frac{B(\bar{y}_R)}{\bar{y}_R}.$$

In other words, shared characteristics are compared between the respondents and full sample in order to determine the extent to which the two populations differ.

Similar comparisons were made using the nonresponse-adjusted weight to evaluate the effect of the three noninterview adjustment factors (NIAFs) compared in this analysis. For this comparison, nonresponse bias was calculated as the difference between the base-weighted sample mean and the nonresponse-adjusted respondent mean. This allows us to evaluate the effectiveness of each nonresponse adjustment in mitigating nonresponse bias. Ineligible teachers were excluded from this analysis.

Estimated biases were calculated for a set of key variables using the TFS *base* weight. A second set of bias calculations was then produced using the nonresponse-adjusted TFS *base* weights derived under the three weighting methodologies; previous methodology, CHAID minimum cell size of 20, and CHAID minimum cell size of 50. Statistical tests were also performed to determine if the bias was significantly different from zero and therefore non-negligible. Sampled teachers found to be ineligible for the TFS were excluded from the analysis.

Table K-6 displays the results of the bias analysis for categorical variables. The variables included in the analysis were included in the original bias analysis run on the 2004–05 TFS or were included in the CHAID model. The table shows the bias resulting from the TFS base weight, the previous nonresponse adjusted base weight, and CHAID-produced nonresponse adjusted base weights.

The table also compares the percent relative differences in the absolute bias for estimates using the three nonresponse-adjusted weights in comparison with the absolute bias of the base-weighted estimate. A percent relative difference, calculated as

$$100 \times \frac{\left[\left|B\left(\hat{\theta}_{adj}\right)\right| - \left|B\left(\hat{\theta}_{base}\right)\right|\right]}{\left|B\left(\hat{\theta}_{base}\right)\right|},$$

where $\left|B\left(\hat{\theta}_{base}\right)\right|$ and $\left|B\left(\hat{\theta}_{adj}\right)\right|$ represent the absolute value of the bias associated with a base-weighted estimate and a nonresponse-adjusted estimate, respectively. Absolute values were used to reflect the contribution of the bias to the overall mean square error calculated as variance plus bias squared (see, e.g., section 1.8 in Cochran 1977). The bias analysis also included continuous variables; however, no substantive differences in relative bias were found for any of the three methods of nonresponse adjustments.

For example, in central city teachers the base-weighted respondent mean is 28.4, while the base-weighted sample mean is 28.6, which results in a percent relative bias of -.82. The respondent mean after adjustment with the previous NIAF was 28.4, which results in a percent relative bias of -.68. The respondent mean after adjustment with the CHAID-produced NIAF (minimum cell size of 20) was 28.6, with a percent relative bias of -.07. Finally, the respondent mean after adjustment with the CHAID-produced NIAF (minimum cell size of 50) was 28.8, with a percent relative difference of .62. In summary, for central city teachers, the bias associated with the previous NIAF is 17 percent less than the bias associated with the base weight, and the bias associated with the CHAID-produced NIAF (minimum cell size of 20) is 91 percent less than the bias associated with the base weight. The bias associated with the CHAID-produced NIAF (minimum cell size of 50) is 23 percent less than the bias associated with the base weight. Thus, all three adjustments reduce the bias of this estimate, with the CHAID-produced NIAF most reducing potential bias.

Table K-6.   Unit nonresponse bias analysis and percent relative differences before and after CHAID-produced nonresponse adjustment factors and the original nonresponse adjustment factor, by school and teacher characteristics: 2004–05

| School and teacher characteristic | Before nonresponse adjustment | | | | Using original weighting cells | | | Using CHAID, cell size minimum is 20 | | | Using CHAID, cell size minimum is 50 | | | Percent relative difference[1] | | |
	Wtd. respondent mean[2]	Wtd. sample mean[2]	Estimated bias	Percent relative bias	Wtd. respondent mean, after adjustments[3]	Estimated bias	Percent relative bias	Wtd. respondent mean, after adjustments[4]	Estimated bias	Percent relative bias	Wtd. respondent mean, after adjustments[4]	Estimated bias	Percent relative bias	Original nonresponse weighting cells	Minimum cell size of 20	Minimum cell size of 50
School sector																
Traditional public	86.4	86.4	0.02	0.03	86.4	-0.02	-0.02	86.3	-0.13	-0.15	86.3	-0.07	-0.08	-29.39	427.52	201.57
Public charter	1.1	1.1	0.02	1.55	1.1	0.02	1.54	1.1	0.04	3.55	1.1	0.04	3.90	-0.71	134.21	158.07
Private	12.5	12.5	-0.04	-0.33	12.5	0.00	0.00	12.6	0.09	0.68	12.6	0.03	0.22	-100.00	110.96	-31.01
Community type																
Central city	28.4	28.6	-0.23	-0.82	28.4	-0.19	-0.68	28.6	-0.02	-0.07	28.8	0.18	0.62	-16.51	-91.01	-23.20
Urban fringe/large town	53.7	54.0	-0.28	-0.53	53.7	-0.26	-0.48	53.8	-0.15	-0.28	53.6	-0.35	-0.65	-8.23	-46.09	24.22
Rural/small town	17.9	17.4	0.52	2.88 *	17.8	0.45	2.54 *	17.6	0.17	0.99	17.6	0.17	0.98	-11.97	-66.39	-66.64
Region																
Northeast	20.1	21.3	-1.22	-6.10 *	20.1	-1.19	-5.94 *	21.3	0.00	0.00	21.3	0.00	0.00	-2.49	-100.00	-100.00
Midwest	24.5	23.5	0.99	4.05 *	24.4	0.94	3.83 *	23.5	0.00	0.00	23.5	0.00	0.00	-5.48	-100.00	-100.00
South	37.1	36.6	0.53	1.42	37.2	0.57	1.52	37.0	0.36	0.97	36.8	0.25	0.69	7.02	-32.32	-52.22
West	18.3	18.6	-0.29	-1.61	18.3	-0.31	-1.68	18.3	-0.36	-1.96	18.4	-0.25	-1.38	4.53	21.50	-14.23
Student enrollment																
Less than 200	8.8	8.7	0.05	0.57	8.8	0.11	1.23	8.8	0.10	1.14	8.8	0.10	1.12	118.89	102.79	98.54
200–349	13.3	13.1	0.19	1.45	13.2	0.14	1.07	13.1	-0.04	-0.32	13.0	-0.06	-0.43	-26.50	-78.66	-70.70
350–499	18.1	18.2	-0.07	-0.38	18.1	-0.08	-0.43	17.9	-0.26	-1.45	17.9	-0.25	-1.41	11.33	272.82	263.66
500–749	24.3	24.3	0.07	0.29	24.4	0.12	0.51	24.2	-0.07	-0.30	24.2	-0.08	-0.32	75.90	3.41	9.84
750 or more	35.5	35.7	-0.24	-0.69	35.4	-0.30	-0.84	36.0	0.27	0.76	36.0	0.29	0.80	22.20	11.88	18.29

See notes at end of table.

Table K-6.   Unit nonresponse bias analysis and percent relative differences before and after CHAID-produced nonresponse adjustment factors and the original nonresponse adjustment factor, by school and teacher characteristics: 2004–05—Continued

| | Before nonresponse adjustment | | | | After nonresponse adjustment | | | | | | | | | Percent relative difference[1] | | |
| | | | | | Using original weighting cells | | | Using CHAID, cell size minimum is 20 | | | Using CHAID, cell size minimum is 50 | | | | | |
School and teacher characteristic	Wtd. respondent mean[2]	Wtd. sample mean[2]	Estimated bias	Percent relative bias	Wtd. respondent mean, after adjustments[3]	Estimated bias	Percent relative bias	Wtd. respondent mean, after adjustments[4]	Estimated bias	Percent relative bias	Wtd. respondent mean, after adjustments[4]	Estimated bias	Percent relative bias	Original nonresponse weighting cells	Minimum cell size of 20	Minimum cell size of 50
Percent enrollment of all race/ethnicities other than White, non-Hispanic																
Less than 10 percent	30.7	30.6	0.11	0.35	30.7	0.06	0.18	30.4	-0.19	-0.61	30.4	-0.19	-0.62	-48.38	73.91	75.57
10–34 percent	26.6	26.2	0.35	1.32	26.6	0.35	1.30	26.6	0.42	1.57	26.4	0.24	0.90	-1.69	19.32	-32.05
35 percent or more	42.7	43.2	-0.46	-1.07	42.8	-0.40	-0.94	42.9	-0.23	-0.54	43.1	-0.05	-0.12	-12.64	-49.41	-89.12
Teacher grade level																
Primary	42.6	42.3	0.30	0.69	42.7	0.42	0.98	42.3	0.03	0.08	42.4	0.04	0.10	41.76	-88.92	-86.07
Middle	27.5	27.3	0.19	0.70	27.4	0.08	0.29	27.5	0.24	0.88	27.4	0.15	0.56	-58.12	25.85	-20.31
High	29.2	29.6	-0.40	-1.36	29.1	-0.41	-1.41	29.4	-0.17	-0.57	29.5	-0.09	-0.29	3.77	-57.56	-78.15
Combined	0.8	0.9	-0.09	-12.06	0.8	-0.09	-11.56	0.8	-0.11	-14.26	0.7	-0.11	-14.42	-3.65	16.00	17.12
Teacher's sex																
Male	24.3	24.3	0.03	0.11	24.1	-0.17	-0.69	24.5	0.25	1.01	24.4	0.14	0.57	542.44	860.69	444.30
Female	75.7	75.7	-0.03	-0.03	75.9	0.17	0.22	75.5	-0.25	-0.33	75.6	-0.14	-0.19	542.44	860.69	444.30
Teacher experience																
New	17.0	17.1	-0.13	-0.77	17.2	0.15	0.86	17.1	-0.02	-0.09	17.2	0.07	0.42	13.63	-88.15	-45.23
Experienced	83.0	82.9	0.13	0.16	82.8	-0.15	-0.18	82.9	0.02	0.02	82.8	-0.07	-0.09	13.63	-88.15	-45.23
Teacher status																
Leaver	8.9	9.1	-0.26	-2.99 *	9.0	-0.15	-1.68	9.1	-0.02	-0.26	9.1	-0.02	-0.17	-42.94	-91.09	-94.02
Stayer	83.7	83.4	0.35	0.42 *	83.4	0.02	0.03	83.5	0.10	0.12	83.4	0.08	0.09	-93.42	-72.50	-78.46
Mover	7.4	7.5	-0.09	-1.17	7.6	0.13	1.67	7.4	-0.07	-0.98	7.5	-0.06	-0.80	47.30	-15.82	-31.02

See notes at end of table.

Table K-6.   Unit nonresponse bias analysis and percent relative differences before and after CHAID-produced nonresponse adjustment factors and the original nonresponse adjustment factor, by school and teacher characteristics: 2004–05—Continued

School and teacher characteristic	Before nonresponse adjustment				After nonresponse adjustment										Percent relative difference[1]		
					Using original weighting cells			Using CHAID, cell size minimum is 20			Using CHAID, cell size minimum is 50						
	Wtd. respondent mean[2]	Wtd. sample mean[2]	Estimated bias	Percent relative bias	Wtd. respondent mean, after adjustments[3]	Estimated bias	Percent relative bias	Wtd. respondent mean, after adjustments[4]	Estimated bias	Percent relative bias	Wtd. respondent mean, after adjustments[4]	Estimated bias	Percent relative bias	Original nonresponse weighting cells	Minimum cell size of 20	Minimum cell size of 50
Teacher's age																
Less than 30	17.2	17.2	0.10	0.57	17.3	0.10	0.59	17.3	0.11	0.62	17.4	0.27	1.56	3.43	8.30	176.15
30–39	23.2	23.7	-0.53	-2.30	23.4	-0.29	-1.22	23.4	-0.29	-1.25	23.4	-0.26	-1.13	-46.27	-45.13	-50.33
40–49	26.5	26.0	0.52	1.97 *	26.2	0.24	0.90	26.3	0.30	1.14	26.2	0.27	1.03	-54.70	-42.59	-48.22
50–64	32.0	32.0	0.04	0.12	32.0	0.03	0.08	32.0	0.02	0.07	31.9	-0.14	-0.45	-34.02	-45.10	262.81
65 or more	1.0	1.2	-0.13	-12.41	1.1	-0.08	-7.28	1.0	-0.14	-13.32	1.0	-0.14	-13.25	-38.57	6.46	5.93
Teacher's race/ethnicity																
Hispanic, any race	4.5	5.1	-0.59	-13.08 *	4.6	-0.50	-10.99 *	4.6	-0.53	-11.70 *	4.7	-0.40	-8.63	-14.41	-9.47	-31.34
Asian or Pacific Islander, non-Hispanic	1.7	1.7	-0.08	-4.70	1.6	-0.09	-5.58	1.7	-0.04	-2.40	1.8	0.03	1.61	17.70	-47.70	-63.67
Black, non-Hispanic	7.5	7.6	-0.10	-1.35	7.5	-0.05	-0.70	7.6	-0.01	-0.11	7.7	0.12	1.61	-48.28	-92.14	22.50
American Indian/Alaska Native, non-Hispanic	0.8	0.8	0.01	1.53	0.8	0.01	0.97	0.8	0.02	2.00	0.8	0.05	6.36	-36.90	31.08	335.92
White, non-Hispanic	84.3	83.7	0.68	0.80 *	84.2	0.55	0.65	84.1	0.48	0.58	83.8	0.12	0.15	-18.46	-28.24	-81.99
Two or more races, non-Hispanic	1.2	1.1	0.08	6.64 *	1.2	0.09	7.33 *	1.2	0.08	6.68 *	1.2	0.08	6.35	11.31	0.66	-4.69
Teacher main activity last year																
Teaching in this school	83.1	83.3	-0.19	-0.23	83.0	-0.32	-0.39	83.0	-0.28	-0.34	83.0	-0.28	-0.33	68.76	46.68	44.33
Teaching in another school in this school system	4.6	4.5	0.13	2.82	4.6	0.18	3.94	4.6	0.09	2.02	4.6	0.10	2.27	41.52	-28.89	-19.67
Teaching in another school system	2.7	2.7	-0.02	-0.79	2.7	0.01	0.24	2.7	-0.02	-0.74	2.7	-0.01	-0.36	-68.72	-5.86	-53.91

See notes at end of table.

Table K-6.   Unit nonresponse bias analysis and percent relative differences before and after CHAID-produced nonresponse adjustment factors and the original nonresponse adjustment factor, by school and teacher characteristics: 2004–05—Continued

| School and teacher characteristic | Before nonresponse adjustment | | | | After nonresponse adjustment | | | | | | | | | | Percent relative difference[1] | | |
| | | | | | Using original weighting cells | | | Using CHAID, cell size minimum is 20 | | | Using CHAID, cell size minimum is 50 | | | | | | |
	Wtd. respondent mean[2]	Wtd. sample mean[2]	Estimated bias	Percent relative bias	Wtd. respondent mean, after adjustments[3]	Estimated bias	Percent relative bias	Wtd. respondent mean, after adjustments[4]	Estimated bias	Percent relative bias	Wtd. respondent mean, after adjustments[4]	Estimated bias	Percent relative bias	Original nonresponse weighting cells	Minimum cell size of 20	Minimum cell size of 50
Teacher main activity last year—Continued																
Teaching in another state	0.8	0.8	-0.02	-2.13	0.8	-0.03	-3.16	0.8	-0.01	-1.45	0.8	-0.02	-2.80	46.72	-31.56	30.55
Teaching in a private school	0.7	0.7	0.04	5.83 *	0.7	0.04	6.05 *	0.7	0.04	6.02 *	0.7	0.04	5.62	4.11	3.45	-3.75
Student at a college or university	2.7	2.7	0.02	0.67	2.7	0.02	0.72	2.7	0.04	1.63	2.7	0.04	1.65	7.51	146.47	148.53
Teaching in a preschool	0.1	0.1	0.00	0.82	0.1	0.00	2.65	0.1	0.01	7.82	0.1	0.01	5.88	227.84	922.98	652.45
Teaching at a college/ university	0.2	0.2	-0.01	-4.32	0.2	-0.01	-6.63	0.2	-0.01	-7.62	0.2	-0.01	-8.47	50.21	71.16	88.73
Working in education, but not as a teacher	1.3	1.3	-0.02	-1.45	1.3	-0.01	-0.73	1.3	0.01	0.78	1.4	0.05	3.60	-49.48	-44.85	160.49
Working in an occupation outside of education	1.4	1.4	-0.02	-1.56	1.4	0.00	0.27	1.4	0.01	0.87	1.4	0.00	0.25	-82.45	-42.85	-83.57
Caring for family members	0.6	0.6	0.02	3.18	0.6	0.02	3.47	0.7	0.05	7.73 *	0.7	0.03	4.83	9.57	155.18	54.79
Military service	0.1	0.0	0.00	8.53	0.1	0.01	10.95	0.1	0.00	9.21	0.1	0.01	9.85	31.92	8.83	17.16
Unemployed and seeking work	0.3	0.3	0.02	7.12 *	0.3	0.03	10.52 *	0.3	0.03	9.91 *	0.3	0.01	4.65	53.25	43.39	-36.47
Retired from another job	0.1	0.1	0.01	8.09 *	0.1	0.01	11.05 *	0.1	0.01	10.04 *	0.1	0.00	7.56	41.12	26.80	-7.06
Other	1.4	1.3	0.04	2.62	1.4	0.04	3.05	1.4	0.02	1.39	1.4	0.02	1.27	17.14	-47.58	-52.30

See notes at end of table.

Table K-6.   Unit nonresponse bias analysis and percent relative differences before and after CHAID-produced nonresponse adjustment factors and the original nonresponse adjustment factor, by school and teacher characteristics: 2004–05—Continued

School and teacher characteristic	Before nonresponse adjustment				After nonresponse adjustment									Percent relative difference[1]		
					Using original weighting cells			Using CHAID, cell size minimum is 20			Using CHAID, cell size minimum is 50					
	Wtd. respondent mean[2]	Wtd. sample mean[2]	Estimated bias	Percent relative bias	Wtd. respondent mean, after adjustments[3]	Estimated bias	Percent relative bias	Wtd. respondent mean, after adjustments[4]	Estimated bias	Percent relative bias	Wtd. respondent mean, after adjustments[4]	Estimated bias	Percent relative bias	Original nonresponse weighting cells	Minimum cell size of 20	Minimum cell size of 50
Teacher main assignment																
Early childhood/general elementary	35.8	35.5	0.23	0.65	35.8	0.31	0.86	35.5	-0.01	-0.03	35.5	0.01	0.02	32.64	-95.55	-97.00
Special education	11.3	11.1	0.16	1.40	11.4	0.20	1.78	11.3	0.13	1.18	11.3	0.15	1.34	27.98	-15.57	-3.96
Arts/music	6.3	6.2	0.08	1.32	6.3	0.04	0.70	6.3	0.04	0.68	6.3	0.07	1.04	-47.37	-48.73	-21.81
English/language arts	10.1	10.5	-0.38	-3.73	10.2	-0.34	-3.31	10.2	-0.33	-3.20	10.1	-0.36	-3.56	-10.82	-13.58	-4.35
ESL/bilingual education	1.1	1.2	-0.14	-12.77	1.1	-0.15	-13.76	1.1	-0.13	-11.71	1.1	-0.14	-13.00	6.76	-7.41	1.55
Foreign languages	2.9	3.3	-0.37	-12.81 *	2.9	-0.38	-12.96 *	2.9	-0.32	-10.99	3.0	-0.30	-10.09	1.04	-12.77	-19.32
Health/physical education	5.7	5.7	0.03	0.61	5.6	-0.04	-0.62	5.7	0.07	1.29	5.7	0.08	1.47	1.31	113.26	142.79
Mathematics	7.4	7.0	0.38	5.10 *	7.4	0.38	5.06 *	7.5	0.43	5.79 *	7.4	0.39	5.24	-0.70	14.36	2.89
Natural science	6.7	6.4	0.29	4.40 *	6.7	0.31	4.67 *	6.7	0.33	4.94 *	6.7	0.31	4.59	6.57	13.00	4.58
Social sciences	6.0	6.1	-0.06	-0.94	6.0	-0.09	-1.48	6.1	0.00	0.07	6.1	-0.01	-0.18	57.49	-91.94	-80.95
Vocational/technical education	4.8	4.9	-0.16	-3.30	4.7	-0.18	-3.83	4.8	-0.13	-2.78	4.8	-0.11	-2.19	15.26	-15.44	-33.10
All others	2.0	2.1	-0.08	-4.27	2.0	-0.08	-4.21	2.0	-0.10	-5.20	2.0	-0.09	-4.67	-1.44	20.72	8.86
Teacher's highest degree																
Associate's degree/no college degree	2.1	2.3	-0.17	-8.22	2.2	-0.12	-5.31	2.2	-0.09	-4.27	2.2	-0.12	-5.53	-33.62	-46.10	-30.98
Bachelor's degree	51.1	50.8	0.21	0.41	51.2	0.40	0.77	50.9	0.09	0.19	50.9	0.08	0.15	90.37	-54.55	-62.41
Master's degree	40.3	40.1	0.16	0.40	40.0	-0.11	-0.29	40.3	0.15	0.37	40.4	0.24	0.58	-29.95	-9.17	44.11
Education specialist	5.6	5.6	0.00	-0.07	5.6	0.01	0.13	5.7	0.05	0.85	5.6	0.01	0.15	84.15	1127.51	114.33
Doctorate or professional degree	0.9	1.1	-0.19	-21.46	0.9	-0.17	-18.83	0.9	-0.20	-22.07	0.9	-0.20	-22.68	-10.29	2.36	4.64

See notes at end of table.

Table K-6. **Unit nonresponse bias analysis and percent relative differences before and after CHAID-produced nonresponse adjustment factors and the original nonresponse adjustment factor, by school and teacher characteristics: 2004–05—Continued**

| School and teacher characteristic | Before nonresponse adjustment | | | | After nonresponse adjustment | | | | | | | | | Percent relative difference[1] | | |
| | | | | | Using original weighting cells | | | Using CHAID, cell size minimum is 20 | | | Using CHAID, cell size minimum is 50 | | | | | |
	Wtd. respondent mean[2]	Wtd. sample mean[2]	Esti-mated bias	Percent relative bias	Wtd. respondent mean, after adjust-ments[3]	Esti-mated bias	Percent relative bias	Wtd. respondent mean, after adjust-ments[4]	Esti-mated bias	Percent relative bias	Wtd. respondent mean, after adjust-ments[4]	Esti-mated bias	Percent relative bias	Original non-response weighting cells	Mini-mum cell size of 20	Mini-mum cell size of 50
Teacher's class organization																
Departmentalized instruction	44.8	45.1	-0.31	-0.68	44.7	-0.41	-0.91	45.1	-0.04	-0.09	45.0	-0.09	-0.21	33.47	-87.21	-69.47
Elementary enrichment class	7.0	7.0	0.02	0.34	7.0	0.02	0.29	7.1	0.03	0.47	7.1	0.05	0.77	-13.27	38.59	129.64
Self-contained class	35.8	35.5	0.38	1.07	36.0	0.50	1.39	35.5	0.06	0.17	35.6	0.11	0.30	30.59	-84.60	-72.02
Team teaching	3.3	3.3	0.07	1.98	3.3	0.04	1.30	3.4	0.11	3.34	3.4	0.09	2.76	-34.49	71.32	40.60
Pull-out class	9.0	9.1	-0.17	-1.86	9.0	-0.16	-1.73	9.0	-0.17	-1.85	9.0	-0.16	-1.79	-6.72	-0.51	-3.34

[1] Percent relative difference is difference between the absolute values of the estimated bias from the CHAID-produced or the original NIAF and the absolute value of the estimated bias before nonresponse adjustments, divided by the absolute value of the estimated bias before nonresponse adjustments, multiplied by 100. This shows the difference between these two values on a percentage scale.

[2] Weighted using the SASS-adjusted TFS base weight, defined as the TFS base weight multiplied by the SASS final weight and divided by the teacher measurement of size.

[3] Weighted used the product of the SASS-adjusted TFS base weight and the original nonresponse adjustment factor calculated using the TFS nonresponse adjustment weighting tables.

[4] Weighted using the product of the SASS-adjusted TFS base weight and the nonresponse adjustment factor calculated using CHAID-produced nonresponse weighting cells.

NOTE: Minimum cell size refers to the minimum allowed cell size used in the CHAID algorithm to define nonresponse weighting cells. Divisions that created cell sizes smaller than the allowed amount were rejected by the algorithm.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public and Private School Teacher Data Files," 2003–04, and Teacher Follow-up Survey (TFS), "Current and Former Teacher Documentation Data Files," 2004–05.

In summary, table K-7 presents the mean and median absolute percent relative bias across all characteristics used in the bias analysis and the percent with significant bias. The mean absolute percent relative bias was 2.98 when using only the base-weight, but was reduced to 2.97 when the nonresponse adjustment is applied using the previous methodology. Thus, the level of nonresponse bias decreased when the previous nonresponse adjustment was applied. When the CHAID-produced nonresponse adjustments were applied, the mean absolute percent relative bias dropped to 2.89 and 2.80 for the CHAID-produced nonresponse adjustments, with minimum cell size of 20 and 50, respectively. Thus, while all three nonresponse adjustments reduced nonresponse bias, the two CHAID-produced nonresponse adjustments reduced the average level of bias further than the previous nonresponse adjustment method.

Table K-7.   Summary of unit nonresponse bias analysis, by type of nonresponse adjustment factor: 2004–05

Nonresponse adjustment factor	Mean absolute percent relative bias	Median absolute percent relative bias	Percent significant bias
TFS sampling weights	2.98	1.40	19.48
After nonresponse adjustment using original weighting cells	2.97	1.30	14.29
After nonresponse adjustment using CHAID, cell size minimum is 20	2.89	0.99	10.39
After nonresponse adjustment using CHAID, cell size minimum is 50	2.80	1.04	6.49

NOTE: Minimum cell size refers to the minimum allowed cell size used in the CHAID algorithm to define nonresponse weighting cells. Divisions that created cell sizes smaller than the allowed amount were rejected by the algorithm.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public and Private School Teacher Data Files," 2003–04, and Teacher Follow-up Survey (TFS), "Current and Former Teacher Documentation Data Files," 2004–05.

In addition, 15 estimates (19 percent) calculated with the TFS base weight had significant levels of bias. The levels of bias were reduced for only four estimates with the previous nonresponse-adjusted TFS sampling weight, leaving 14 percent of estimates with significant bias. The number of significantly biased estimates was reduced to eight (10 percent) with the CHAID-produced nonresponse adjustment with minimum cell size of 20. Finally, the CHAID-produced nonresponse adjustment with minimum cell size of 50 reduced the number of significantly biased estimates to five (6 percent). In other words, all three adjustments reduced the number of estimates with significant bias, but the CHAID-produced nonresponse adjustment reduced the bias more effectively.

Summary of Findings

Based on the presented analysis, ESSI concludes that CHAID is an effective and viable method for producing nonresponse weighting cells. The majority of design effects are smaller for the nonresponse-adjusted weights produced using CHAID than with the previous methodology. Thus, CHAID reduces the inflation of the variance associated with the analysis weights. Relative standard errors are also reduced using the CHAID nonresponse adjustment, thus making estimates produced with the CHAID nonresponse adjustment more stable.

The bias analysis also showed that the CHAID-produced NIAF is more effective in mitigating nonresponse bias than the previous methodology. Fewer estimates have significant bias with the CHAID-produced NIAF than the previous methodology. The CHAID-produced NIAF decreases the level of bias in more estimates than the previous NIAF. Finally, the average relative bias also decreases when the CHAID-produced NIAF is applied.

Recommendations for the TFS Weighting Methodology

ESSI recommends using CHAID to determine the nonresponse weighting cells for the 2008–09 TFS and subsequent SASS surveys. The 2004–05 TFS comparison demonstrates that the CHAID-produced NIAF is more effective in reducing nonresponse bias than the previous NIAF. ESSI also expects the CHAID-produced nonresponse weighting cells will be more time-efficient in the weighting process because the cell collapsing routine will not be necessary due to small cell size because the minimum cell size is built into the parameters of the CHAID model. The dynamic nature of CHAID makes it preferable. Because CHAID relies on the data to determine nonresponse weighting cells, CHAID allows more flexibility in developing the weighting class cells.

In addition, ESSI recommends employing a minimum cell size of 50 in comparison to 20 given the following:

- the number of variables with a detectable level of nonresponse bias is lowest with minimum cell size of 50;
- the difference in the design effects associated with the weights for the two CHAID methodologies is minimal; and
- the larger cell sizes are expected to produce more stable estimates of response propensity, especially if overall levels of nonresponse increase in future surveys.

Designed only to test the noninterview adjustment, this study does not address potential impacts of CHAID on the final analysis weights, which also include a benchmark (i.e., poststratification) adjustment to the SASS-estimated population. Because the benchmark adjustment would have been uniformly applied to the three nonresponse-adjusted weights, we assumed that the interaction of the nonresponse and benchmark adjustments would not have affected our conclusions. Therefore, the benchmark adjustment was excluded from the study. A full bias analysis will be completed for the 2008–09 TFS to inform the weighting procedure and to ensure the highest quality analysis weights.

The results presented here are limited to a comparison of the previous methodology against a weighting class adjustment defined using CHAID. Other methods for nonresponse adjustment may be considered in the future, including methods that control the marginal distributions of the predictors such as propensity modeling, raking, or generalized exponential models (Siegel, Chromy, and Copello 2005).

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Appendix L. Frame and Created Variables

Variables were classified as frame variables if they were drawn from or based on the Teacher Follow-up Survey (TFS) sampling frame. Frame variables may or may not have been used for sampling. Selected variables from these sources were included on the restricted-use data files if they provided potentially valuable information to the user that was not available on the survey.

Created variables are based on survey variables, frame variables, other created variables, or a combination of these. These variables are frequently used in National Center for Education Statistics (NCES) publications and have been added to the data files to facilitate data analysis.

The frame and created variables included on the 2008–09 TFS restricted-use data files are listed below along with a brief description. The SAS code used to produce the created variables is also detailed.

Variable name	Variable type	Description and specifications
AGE_T	Created	Age of teacher as reported on the 2007–08 SASS. Calculated as follows: AGE_T = sum (2007, -t0360);
AGE_TF	Created	Teacher's age during TFS. Calculated by adding one year to age as reported in SASS (AGE_T). Calculated as follows: AGE_TF = sum (AGE_T, 1);

AIFLAG	Created	Flag identifying BIE-funded schools and proportion of American Indian students enrolled in non-BIE-funded schools as reported in the 2007–08 SASS. For cases where the school was a noninterview, sample file or other information was used to impute (if available).
		
		Categories include:
		1 = BIE-funded school;
		2 = Non-BIE-funded school, 20% or more American Indian enrollment;
		3 = Non-BIE-funded school, less than 20% American Indian enrollment.
		
		Coded as follows for school files:
		if BIEFLAG = 1 then AIFLAG = 1;
		if BIEFLAG = 2 and s0046/s0047 ge .2 then AIFLAG = 2;
		if BIEFLAG = 2 and s0046/s0047 lt .2 then AIFLAG = 3;
		
		For other files:
		if BIEFLAG = 1 then AIFLAG = 1;
		if BIEFLAG = 2 and s0046/ENRK12UG ge .2 then AIFLAG = 2;
		if BIEFLAG = 2 and s0046/ENRK12UG lt .2 then AIFLAG = 3;

Variable name	Variable type	Description and specifications
ASGN03_S	Created	Recoded 2007–08 main teaching assignment.

Categories include:
1 = Early Childhood or General Elementary;
2 = Special Education;
3 = Arts or Music;
4 = English and Language Arts;
5 = Mathematics;
6 = Natural Sciences;
7 = Social Sciences;
8 = Other.

Coded as follows:
select (T0067); when (101,102) ASGN03_S = 1;
when (110) ASGN03_S = 2; when (141,143,144,145) ASGN03_S = 3;
when (151,152,153,154,155,158,159) ASGN03_S = 4;
when (191,192,193,194,195,196,198,199,200,201) ASGN03_S = 5;
when (210,211,212,213,215,216,217) ASGN03_S = 6;
when (220,221,225,226,227,228,231,233,234) ASGN03_S = 7;
otherwise ASGN03_S = 8; end;

Variable name	Variable type	Description and specifications
ASSIGN03	Created	General field of main teaching assignment as reported in the 2007–08 SASS.

Categories include:
1 = Early Childhood or General Elementary;
2 = Special Education;
3 = Arts or Music;
4 = English and Language Arts;
5 = ESL or Bilingual Education;
6 = Foreign Languages;
7 = Health or Physical Education;
8 = Mathematics;
9 = Natural Sciences;
10 = Social Sciences;
11 = Vocational, Career, or Technical Education;
12 = All Others.

Coded as follows:
if t0067 in (101,102) then ASSIGN03 = 1;
if t0067 = 110 then ASSIGN03 = 2;
if t0067 in (141, 143, 144, 145) then ASSIGN03 = 3;
if t0067 in (151, 152, 153, 154, 155, 158, 159) then ASSIGN03 = 4;
if t0067 in (160, 161, 162) then ASSIGN03 = 5;
if 171 le t0067 le 175 then ASSIGN03 = 6;
if t0067 in (181, 182) then ASSIGN03 = 7;
if t0067 in (191, 192, 193, 194, 195, 196, 198, 199, 200, 201) then
ASSIGN03 = 8;
if t0067 in (210, 211, 212, 213, 215, 216, 217) then ASSIGN03 = 9;
if t0067 in (220, 221, 225, 226, 227, 228, 231, 233, 234) then ASSIGN03 = 10;
if 241 le t0067 le 256 then ASSIGN03 = 11;
if t0067 in (197, 262, 264, 265, 266, 267, 268) then ASSIGN03 = 12;

Variable name	Variable type	Description and specifications
BEGYR_S	Created	Updated first year of teaching. Taken from SASS where TCHYR on the BTLS Questionnaire matches T0037 on the SASS Teacher Questionnaire; otherwise taken from TCHYR on the BTLS. Coded as follows: If TCHYR gt 0 and TCHYR ne T0037 then BEGYR_S = TCHYR; else BEGYR_S = T0037;
CHARFLAG	Created	Flag that indicates whether or not a school is a charter school. A charter school is a public school that, in accordance with an enabling state statute, has been granted a charter exempting it from selected state or local rules and regulations. A charter school may be a newly created school or it may previously have been a public or private school. For cases where the school was a non-interview, sample file or other information was used to impute (if available). Copied from s0230 on the SASS public school and BIE-funded school files. Categories include: 1 = School is a public charter school; 2 = School is not a public charter school; -8 = Respondent taught in a private school in the 2007–08 SASS. Coded as follows: if sector = 2 then do; if CHARFLAG = . then CHARFLAG = -8; end;
CNTLNUMD	Frame	District control number for 2007–08 SASS district. Digit 1–2: State FIPS code. Digit 3–5: District number (101–899 - All public schools except public schools with no districts, state run schools, one-school districts, and some charter schools, 901–999 - public schools with no districts, state run schools, one-school districts, and some charter schools). Digit 6: Check digit - Computed from other parts of control number. Note: the first five digits are the same as the first five digits of the associated schools' control numbers. Use these five digits to merge district data to principal, school, teacher, and library records. Coded as follows: if sector = 2 then do; CNTLNUMD = -8; end;

Variable name	Variable type	Description and specifications
CNTLNUMS	Frame	School control number for 2007–08 SASS school. Use this number to merge school, principal, teacher, and library records. Digits 1–2: State FIPS code. Digits 3–5: District number (101–899 - All public schools except public schools with no districts, state run schools, one-school districts, and some charter schools; 901–999 - Public schools with no districts, state run schools, one-school districts, and some charter schools). Digit 6: Type of school (1 = Regular public school; 2 = DOD school; 3 = BIE school; 7 = One-school districts; 8 = Charter school operated by regular District; 9 = Charter school operated by an entity other than a school district; 0 = Independent charter school). Digits 7–9: School number (101–999 - Schools are numbered sequentially starting with 101 within each state and each district). Digit 10: Space holder (0 for all schools). Digit 11: Questionnaire identifier (3 = public school and public school with district items). Digit 12: Check digit - Computed from other parts of control number. Private school control number. Digit 1–2: State FIPS code. Digit 3–5: District number - 000 for all private schools. Digit 6: Type of school (4 = Catholic list frame private school; 5 = Non-Catholic list frame private school; 6 = Area frame private school). Digit 7–9: School number (101–999 - Schools are numbered sequentially starting with 101 within each state and school type). Digit 10: Space holder (0 for all schools). Digit 11: Questionnaire identifier (7 = private school). Digit 12: Check digit - Computed from other parts of control number.

Variable name	Variable type	Description and specifications
CNTLNUMT	Frame	Teacher control number. Digits 1–2: State FIPS code. Digits 3–5: District number (101–899 - All public schools except public schools with no districts, state run schools, one-school districts, and some charter schools; 901–999 - Public schools with no districts, state run schools, one-school districts, and some charter schools). Digit 6: (1 = Regular public school; 2 = DOD school; 3 = BIE school; 7 = One-school districts; 8 = Charter school operated by a regular District; 9 = Charter school operated by an entity other than a school district; 0 = Independent charter school). Digits 7–9: School number (101–999 - Schools are numbered sequentially starting with 101 within each state and each district). Digit 10: Space holder (0 for all schools). Digit 11–13: Teacher number (Teachers are numbered sequentially within each school beginning at 101). Digit 14: Check digit - Computed from other parts of control number. Private teacher control number: Digit 1–2: State FIPS code. Digit 3–5: District number - 000 for all private schools. Digit 6: Type of school (4 = Catholic list frame private school; 5 = Non-Catholic list frame private school; 6 = Area frame private school). Digit 7–9: School number (101–999 - Schools are numbered sequentially starting with 101 within each type of school and each state). Digit 10: Space holder (0 for all schools). Digit 11–13: Teacher number (Teachers are numbered sequentially within each school beginning at 101). Digit 14: Check digit - Computed from other parts of control number.
ENRK12UG	Created	Total K–12 and ungraded student enrollment in the school, as reported in the 2007–08 SASS. Copied from s0047 on the SASS school files. For cases where the school was a noninterview, sample file or other information was used to impute (if available).

ENRLEA	Created	Total K–12 and ungraded student enrollment in the district. Copied from d0276 on the SASS district file. For cases where the district was a noninterview, sample file or other information was used to impute (if available).
		
		Coded as follows:
		if sector in (2,3) then do;
		if ENRLEA = . then ENRLEA = -8; end;
		if sector = 1 then do;
		if ENRLEA = . then ENRLEA = -9; end;

Variable name	Variable type	Description and specifications
FL_STATF	Created	Flag indicating the source of the TFS state address variables.
		Categories include:
		1 = Source of address is current school of TFS teacher;
		2 = Source of address is home address from survey;
		3 = Source of home address is master file.
		4 = Source of address is SASS school.
		Coded as follows:
		if STTUS_TF = 2 then FL_STATF = 1;
		if STTUS_TF = 3 then do;
		if SCSTA ne . then FL_STATF = 1;
		else if USTAT ne . then FL_STATF = 2;
		else if ST ne . then FL_STATF = 3;
		else if ST = '.' then FL_STATF = 4; end;
		if STTUS_TF = 1 then do;
		if USTAT ne . then FL_STATF = 2; else if ST ne . then FL_STATF = 3; else if ST = '.' then FL_STATF = 4; end;
FL_ZIPTF	Created	Flag indicating the source of the ZIP code (ZIP_TF) reported.
		Categories include:
		1 = source of address is current school of TFS teacher;
		2 = source of address is home address from survey;
		3 = source of address is home address;
		4 = source of address is SASS school.
		Coded as follows:
		if STTUS_TF = 2 then FL_ZIPTF = 1;
		if STTUS_TF = 3 then do;
		if SCZIP ne . then FL_ZIPTF = 1;
		else if UZIP5 ne . then FL_ZIPTF = 2;
		else if zip ne . then FL_ZIPTF = 3;
		else if zip = '.' then FL_ZIPTF = 4; end;
		if STTUS_TF = 1 then do;
		if UZIP5 ne . then FL_ZIPTF = 2;
		else if zip ne . then FL_ZIPTF = 3;
		else if zip = '.' then FL_ZIPTF = 4; end;
FSECT_TF	Frame	School sector for the 2008–09 TFS school. Determined by classification on CCD or PSS.
		Coded as follows:
		if STTUS_TF = 2 then FSECT_TF = SECTOR;
		if STTUS_TF = 1 then FSECT_TF = -8;
		if STTUS_TF = 3 then do;
		if FIPST = 59 then FSECT_TF = 3;
		else if FORYN = 1 then FSECT_TF = -8;
		else if W2NCSID is from CCD then FSECT_TF = 1;
		else if W2NCSID is from PSS then FSECT_TF = 2; End;
		if FSECT_TF = . then FSECT_TF = -9;

Variable name	Variable type	Description and specifications
FTPT	Created	Two-level teaching status variable that shows whether respondent is teaching full-time or part-time in the 2007–08 school year. Categories include: 1 = full-time; 2 = part-time. Coded as follows: if t0025 = 1 or t0028 = 1 then FTPT = 1; else FTPT = 2;
GENDER_S	Created	Teacher's gender as reported in the 2007–08 SASS. Copied from SASS teacher variable T0352. Categories include: 1 = male; 2 = female. Coded as follows: if t0352 = 1 then GENDER_S = 1; if t0352 = 2 then GENDER_S = 2;

HIDEGR	Created	Highest degree held by the teacher as reported in the 2007–08 SASS.
		
		Categories include:
		1 = Associate's degree or no college degree;
		2 = Bachelor's degree;
		3 = Master's degree;
		4 = Education specialist or Certificate of Advanced Graduate Studies;
		5 = Doctorate or professional degree.
		
		Coded as follows:
		if t0141 ne -8 then HIDEGR = 5;
		else if t0135 ne . or t0138 ne -8 then HIDEGR = 4;
		else if t0120 = 1 then HIDEGR = 3;
		else if t0110 = 1 then HIDEGR = 2;
		else HIDEGR = 1;

IEP_T	Created	Percentage of students who had an Individual Education Plan (IEP) taught by teachers of self-contained or departmentalized classes as reported in the 2007–08 SASS. Value is continuous unless the teacher is not departmentalized or self-contained (-8, valid skip).
		
		Calculated as follows:
		if t0068 = 1 then IEP_T = (INT((t0065/PUPILS_D)*10e5)/10e3);
		if t0068 = 3 then IEP_T = (INT((t0065/PUPILS_S)*10e5)/10e3);
		if IEP_T gt 100 then IEP_T = 100; if t0068 not in (1,3) then IEP_T = -8;

Variable name	Variable type	Description and specifications
JOBDES_S	Created	Description of teacher's job outside the school system in addition to teaching during the 2007–08 school year, as reported on the SASS. Copied from SASS teacher variable T0350. Categories include: 1 = teaching or tutoring; 2 = nonteaching, but related to the teaching field; 3 = other. Coded as follows: JOBDES_S = T0350;

LEP_T	Created	Percentage of students who were of limited-English proficiency (LEP) taught by teachers of self-contained or departmentalized classes as reported in the 2007–08 SASS. Value is continuous unless the teacher is not departmentalized or self-contained (-8, valid skip).
		
		Calculated as follows:
		if t0068 = 1 then LEP_T = (INT((t0066/PUPILS_D)*10e5)/10e3);
		if t0068 = 3 then LEP_T = (INT((t0066/PUPILS_S)*10e5)/10e3);
		if LEP_T gt 100 then LEP_T = 100;
		if t0068 not in (1, 3) then LEP_T = -8;

MOVER_TF	Created	Ten-level variable showing whether teacher moved from the base year school, and if so, what type of move (i.e., across districts, states, and/or sectors).
		
		Categories include:
		1 = Teacher in same school where he/she was during SASS;
		2 = Moved from one public school to another in the same district;
		3 = Moved from one public school district to another, same state;
		4 = Moved from one public school district to another, different state;
		5 = Moved from a private school to a public school, same state;
		6 = Moved from a private school to a public school, different state;
		7 = Moved from one private school to another, same state;
		8 = Moved from one private school to another, different state;
		9 = Moved from a public school to a private school, same state;
		10 = Moved from a public school to private school, different state.
		
		Coded as follows:
		if MOVYN = 1 then MOVER_TF = 1;
		if MVTYP = 1 then MOVER_TF = 2 ;
		if MVTYP = 2 and STTYN = 1 then MOVER_TF = 3;
		if MVTYP = 2 and STTYN = 2 then MOVER_TF = 4;
		if MVTYP = 3 and STTYN = 1 then MOVER_TF = 5;
		if MVTYP = 3 and STTYN = 2 then MOVER_TF = 6;
		if MVTYP = 4 and STTYN = 1 then MOVER_TF = 7;
		if MVTYP = 4 and STTYN = 2 then MOVER_TF = 8;
		if MVTYP = 5 and STTYN = 1 then MOVER_TF = 9;
		if MVTYP = 5 and STTYN = 2 then MOVER_TF = 10;

Variable name	Variable type	Description and specifications
NCSID_TF	Frame	NCES school identification number for the 2008–09 TFS school. Origin: NCESSCH from the 2005–06 CCD and PPIN on the 2005–06 PSS.
		For public and BIE schools:
		Digit 1–2: FIPS state code.
		Digit 3–7: District code.
		Digit 8–12: School code.
		For a complete list of FIPS codes, reference http://www.itl.nist.gov/fipspubs/fip5-2.htm or refer to the *Documentation for the 2007–08 Schools and Staffing Survey* (NCES 2010-332). Note that this variable has been altered for cases in New England and Nebraska, and some charter schools, where the CCD definition of a school district did not match the SASS definition of a school district. For these cases, district level data were collected from an entity other than the CCD district. Digits 1–7 were edited to refer to the entity interviewed in SASS.
		Coded as follows:
		if STTUS_TF = 2 and SECTOR = 1 then NCSID_TF = SC_NCSID;
		if STTUS_TF = 2 and SECTOR = 2 then NCSID_TF = PPIN;
		if STTUS_TF = 3 and FSECT_TF in (1,3) then NCSID_TF = NCESSCH;
		if STTUS_TF = 3 and FSECT_TF = 2 then NCSID_TF = PPIN;
		if STTUS_TF = 3 and FORYN = 1 then NCSID_TF = -8;
NEWTCH_S	Created	Variable that identifies teachers who have 3 or fewer years of experience including full- and part-time teaching experience in public and private schools as of the 2007–08 school year. For some cases, data differ from SASS variable NEWTCH because of updated information received during the 2008–09 data collection.
		Coded as follows:
		if TOTYREXP_S le 3 then NEWTCH_S = 1; else NEWTCH_S = 2;
NSLAPP_S	Created	Of schools that participate in the National School Lunch Program (NSLP), the percentage of their K–12 enrollment that was approved for free or reduced-price lunches, as reported in the 2007–08 SASS. Value is continuous unless school does not participate in the NSLP (-8, valid skip). For cases where the school was a noninterview, sample file or other information was used to impute (if available).
		Calculated as follows for school files:
		if s0215 = 2 then NSLAPP_S = -8;
		else NSLAPP_S = (INT((S0217/S0047)*10e5)/10e3);
		if NSLAPP_S gt 100 then NSLAPP_S = 100;
		For all other files:
		if s0215 = 2 then NSLAPP_S = -8;
		else NSLAPP_S = (INT((s0217/ENRK12UG)*10e5)/10e3);
		if NSLAPP_S gt 100 then NSLAPP_S = 100;

Variable name	Variable type	Description and specifications
NSTAT_TF	Created	Numeric recode of the TFS state variable (STATE_TF).

Categories include:

1 = Alabama;	18 = Kentucky;	35 = North Dakota;
2 = Alaska;	19 = Louisiana;	36 = Ohio;
3 = Arizona;	20 = Maine;	37 = Oklahoma;
4 = Arkansas;	21 = Maryland;	38 = Oregon;
5 = California;	22 = Massachusetts;	39 = Pennsylvania;
6 = Colorado;	23 = Michigan;	40 = Rhode Island;
7 = Connecticut;	24 = Minnesota;	41 = South Carolina;
8 = Delaware;	25 = Mississippi;	42 = South Dakota;
9 = District of Columbia;	26 = Missouri;	43 = Tennessee;
10 = Florida;	27 = Montana;	44 = Texas;
11 = Georgia;	28 = Nebraska;	45 = Utah;
12 = Hawaii;	29 = Nevada;	46 = Vermont;
13 = Idaho;	30 = New Hampshire;	47 = Virginia;
14 = Illinois;	31 = New Jersey;	48 = Washington;
15 = Indiana;	32 = New Mexico;	49 = West Virginia;
16 = Iowa;	33 = New York;	50 = Wisconsin;
17 = Kansas;	34 = North Carolina;	51 = Wyoming.

Coded as follows:
if STATE_TF = '01' then NSTAT_TF = 1;
if STATE_TF = '02' then NSTAT_TF = 2;
if STATE_TF = '04' then NSTAT_TF = 3;
if STATE_TF = '05' then NSTAT_TF = 4;
if STATE_TF = '06' then NSTAT_TF = 5;
if STATE_TF = '08' then NSTAT_TF = 6;
if STATE_TF = '09' then NSTAT_TF = 7;
if STATE_TF = '10' then NSTAT_TF = 8;
if STATE_TF = '11' then NSTAT_TF = 9;
if STATE_TF = '12' then NSTAT_TF = 10;
if STATE_TF = '13' then NSTAT_TF = 11;
if STATE_TF = '15' then NSTAT_TF = 12;
if STATE_TF = '16' then NSTAT_TF = 13;
if STATE_TF = '17' then NSTAT_TF = 14;
if STATE_TF = '18' then NSTAT_TF = 15;
if STATE_TF = '19' then NSTAT_TF = 16;
if STATE_TF = '20' then NSTAT_TF = 17;
if STATE_TF = '21' then NSTAT_TF = 18;
if STATE_TF = '22' then NSTAT_TF = 19;
if STATE_TF = '23' then NSTAT_TF = 20;
if STATE_TF = '24' then NSTAT_TF = 21;
if STATE_TF = '25' then NSTAT_TF = 22;
if STATE_TF = '26' then NSTAT_TF = 23;
if STATE_TF = '27' then NSTAT_TF = 24;
if STATE_TF = '28' then NSTAT_TF = 25;
if STATE_TF = '29' then NSTAT_TF = 26;
if STATE_TF = '30' then NSTAT_TF = 27;
if STATE_TF = '31' then NSTAT_TF = 28;
if STATE_TF = '32' then NSTAT_TF = 29;
if STATE_TF = '33' then NSTAT_TF = 30;
if STATE_TF = '34' then NSTAT_TF = 31;
if STATE_TF = '35' then NSTAT_TF = 32;
if STATE_TF = '36' then NSTAT_TF = 33;

Variable name	Variable type	Description and specifications
NSTAT_TF— Continued		if STATE_TF = '37' then NSTAT_TF = 34;
		if STATE_TF = '38' then NSTAT_TF = 35;
		if STATE_TF = '39' then NSTAT_TF = 36;
		if STATE_TF = '40' then NSTAT_TF = 37;
		if STATE_TF = '41' then NSTAT_TF = 38;
		if STATE_TF = '42' then NSTAT_TF = 39;
		if STATE_TF = '44' then NSTAT_TF = 40;
		if STATE_TF = '45' then NSTAT_TF = 41;
		if STATE_TF = '46' then NSTAT_TF = 42;
		if STATE_TF = '47' then NSTAT_TF = 43;
		if STATE_TF = '48' then NSTAT_TF = 44;
		if STATE_TF = '49' then NSTAT_TF = 45;
		if STATE_TF = '50' then NSTAT_TF = 46;
		if STATE_TF = '51' then NSTAT_TF = 47;
		if STATE_TF = '53' then NSTAT_TF = 48;
		if STATE_TF = '54' then NSTAT_TF = 49;
		if STATE_TF = '55' then NSTAT_TF = 50;
		if STATE_TF = '56' then NSTAT_TF = 51;

Variable name	Variable type	Description and specifications
NUMSTATE	Frame	Numeric recode of the state with administrative control over the 2007–08 SASS district and the schools within that district. Identical to STATE and STAT_ABB. Origin: STATE on the SASS sampling frame.

Categories include:

1 = Alabama;	18 = Kentucky;	35 = North Dakota;
2 = Alaska;	19 = Louisiana;	36 = Ohio;
3 = Arizona;	20 = Maine;	37 = Oklahoma;
4 = Arkansas;	21 = Maryland;	38 = Oregon;
5 = California;	22 = Massachusetts;	39 = Pennsylvania;
6 = Colorado;	23 = Michigan;	40 = Rhode Island;
7 = Connecticut;	24 = Minnesota;	41 = South Carolina;
8 = Delaware;	25 = Mississippi;	42 = South Dakota;
9 = District of Columbia;	26 = Missouri;	43 = Tennessee;
10 = Florida;	27 = Montana;	44 = Texas;
11 = Georgia;	28 = Nebraska;	45 = Utah;
12 = Hawaii;	29 = Nevada;	46 = Vermont;
13 = Idaho;	30 = New Hampshire;	47 = Virginia;
14 = Illinois;	31 = New Jersey;	48 = Washington;
15 = Indiana;	32 = New Mexico;	49 = West Virginia;
16 = Iowa;	33 = New York;	50 = Wisconsin;
17 = Kansas;	34 = North Carolina;	51 = Wyoming.

Coded as follows:
if state = '01' then numstate = 1; if state = '02' then numstate = 2;
if state = '04' then numstate = 3; if state = '05' then numstate = 4;
if state = '06' then numstate = 5; if state = '08' then numstate = 6;
if state = '09' then numstate = 7; if state = '10' then numstate = 8;
if state = '11' then numstate = 9; if state = '12' then numstate = 10;
if state = '13' then numstate = 11; if state = '15' then numstate = 12;
if state = '16' then numstate = 13; if state = '17' then numstate = 14;
if state = '18' then numstate = 15; if state = '19' then numstate = 16;
if state = '20' then numstate = 17; if state = '21' then numstate = 18;
if state = '22' then numstate = 19; if state = '23' then numstate = 20;
if state = '24' then numstate = 21; if state = '25' then numstate = 22;
if state = '26' then numstate = 23; if state = '27' then numstate = 24;
if state = '28' then numstate = 25; if state = '29' then numstate = 26;
if state = '30' then numstate = 27; if state = '31' then numstate = 28;
if state = '32' then numstate = 29; if state = '33' then numstate = 30;
if state = '34' then numstate = 31; if state = '35' then numstate = 32;
if state = '36' then numstate = 33; if state = '37' then numstate = 34;
if state = '38' then numstate = 35; if state = '39' then numstate = 36;
if state = '40' then numstate = 37; if state = '41' then numstate = 38;
if state = '42' then numstate = 39; if state = '44' then numstate = 40;
if state = '45' then numstate = 41; if state = '46' then numstate = 42;
if state = '47' then numstate = 43; if state = '48' then numstate = 44;
if state = '49' then numstate = 45; if state = '50' then numstate = 46;
if state = '51' then numstate = 47; if state = '53' then numstate = 48;
if state = '54' then numstate = 49; if state = '55' then numstate = 50;
if state = '56' then numstate = 51;

Variable name	Variable type	Description and specifications
OCODE_TF	Created	2002 NAICS Occupation Classification. Origin: OCCTL on the Former Teacher Questionnaire. For details on the occupation descriptions and groupings see Appendix B: Occupation Classification at http://www.census.gov/apsd/techdoc/cps/cpsmar05.pdf
PGMTYPE	Created	School program type, as reported in the 2007–08 SASS. For cases where the school was a noninterview, sample file or other information was used to impute (if available). Categories include: 1 = Regular; 2 = Montessori; 3 = Special program emphasis; 4 = Special Education; 5 = Career/Technical/Vocational Education; 6 = Alternative; 7 = Early Childhood Program/Daycare Center. Copied from variable s0048 on SASS public, BIE and private school files.
PLANS_S	Created	How long the teacher plans to stay in teaching, as reported on the 2007–08 SASS. Copied from SASS teacher variable T0321. Categories include: 1 = as long as I am able; 2 = until I am eligible for retirement benefits from this job; 3 = until I am eligible for retirement benefits from a previous job; 4 = until I am eligible for Social Security benefits; 5 = until a specific life event occurs (e.g., parenthood, marriage); 6 = until a more desirable job opportunity comes along; 7 = definitely plan to leave as soon as I can; 8 = undecided at this time. Coded as follows: PLANS_S = T0321;

RACETH_T	Created	Teacher's race/ethnicity as reported in the 2007–08 SASS.
		
		Coded as follows:
		array races (5) t0358 t0357 t0356 t0355 t0354; Racenum = 0; do i = 1 to 5;
		if Races(i) = 1 then Racenum = Racenum + $10**(i-1)$; end;
		if t0353 = 1 and Racenum = 1 then RACETH_T = 1; /*Hispanic, American Indian*/
		if t0353 = 1 and Racenum = 10 then RACETH_T = 2; /*Hispanic, Hawaiian Native*/
		if t0353 = 1 and Racenum = 11 then RACETH_T = 3; /*Hispanic, Hawaiian Native, American Indian*/
		if t0353 = 1 and Racenum = 100 then RACETH_T = 4; /*Hispanic, Asian*/
		if t0353 = 1 and Racenum = 101 then RACETH_T = 5; /*Hispanic, Asian, American Indian*/
		if t0353 = 1 and Racenum = 110 then RACETH_T = 6; /*Hispanic, Asian, Hawaiian Native*/
		if t0353 = 1 and Racenum = 111 then RACETH_T = 7; /*Hispanic, Asian, Hawaiian Native, American Indian*/
		if t0353 = 1 and Racenum = 1000 then RACETH_T = 8; /*Hispanic, Black*/
		if t0353 = 1 and Racenum = 1001 then RACETH_T = 9; /*Hispanic, Black,

Variable name	Variable type	Description and specifications
RACETH_T— Continued		American Indian*/ if t0353 = 1 and Racenum = 1010 then RACETH_T = 10; /*Hispanic, Black, Hawaiian Native*/ if t0353 = 1 and Racenum = 1011 then RACETH_T = 11; /*Hispanic, Black, Hawaiian Native, American Indian*/ if t0353 = 1 and Racenum = 1100 then RACETH_T = 12; /*Hispanic, Black, Asian*/ If t0353 = 1 and Racenum = 1101 then RACETH_T = 13; /*Hispanic, Black, Asian, American Indian*/ if t0353 = 1 and Racenum = 1110 then RACETH_T = 14; /*Hispanic, Black, Asian, Hawaiian Native*/ if t0353 = 1 and Racenum = 1111 then RACETH_T = 15; /*Hispanic, Black, Asian, Hawaiian Native, American Indian*/ if t0353 = 1 and Racenum = 10000 then RACETH_T = 16; /*Hispanic, White*/ if t0353 = 1 and Racenum = 10001 then RACETH_T = 17; /*Hispanic, White, American Indian*/ if t0353 = 1 and Racenum = 10010 then RACETH_T = 18; /*Hispanic, White, Hawaiian Native*/ if t0353 = 1 and Racenum = 10011 then RACETH_T = 19; /*Hispanic, White, Hawaiian Native, American Indian*/ if t0353 = 1 and Racenum = 10100 then RACETH_T = 20; /*Hispanic, White, Asian*/ If t0353 = 1 and Racenum = 10101 then RACETH_T = 21; /*Hispanic, White, Asian, American Indian*/ if t0353 = 1 and Racenum = 10110 then RACETH_T = 22; /*Hispanic, White, Asian, Hawaiian Native*/ if t0353 = 1 and Racenum = 10111 then RACETH_T = 23; /*Hispanic, White, Asian, Hawaiian Native, American Indian*/ If t0353 = 1 and Racenum = 11000 then RACETH_T = 24; /*Hispanic, White, Black*/ if t0353 = 1 and Racenum = 11001 then RACETH_T = 25; /*Hispanic, White, Black, American Indian*/ if t0353 = 1 and Racenum = 11010 then RACETH_T = 26; /*Hispanic, White, Black, Hawaiian Native*/ if t0353 = 1 and Racenum = 11011 then RACETH_T = 27; /*Hispanic, White, Black, Hawaiian Native, American Indian*/ if t0353 = 1 and Racenum = 11100 then RACETH_T = 28; /*Hispanic, White, Black, Asian*/ if t0353 = 1 and Racenum = 11101 then RACETH_T = 29; /*Hispanic, White, Black, Asian, American Indian*/ if t0353 = 1 and Racenum = 11110 then RACETH_T = 30; /*Hispanic, White, Black, Asian, Hawaiian Native*/ if t0353 = 1 and Racenum = 11111 then RACETH_T = 31; /*Hispanic, White, Black, Asian, Hawaiian Native, American Indian*/ if t0353 = 2 and Racenum = 1 then RACETH_T = 32; /*non-Hispanic, American Indian*/ if t0353 = 2 and Racenum = 10 then RACETH_T = 33; /*non-Hispanic, Hawaiian Native*/ if t0353 = 2 and Racenum = 11 then RACETH_T = 34; /*non-Hispanic, Hawaiian Native, American Indian*/ if t0353 = 2 and Racenum = 100 then RACETH_T = 35; /*non-Hispanic, Asian*/ if t0353 = 2 and Racenum = 101 then RACETH_T = 36; /*non-Hispanic, Asian, American Indian*/ if t0353 = 2 and Racenum = 110 then RACETH_T = 37; /*non-Hispanic, Asian, Hawaiian Native*/ if t0353 = 2 and Racenum = 111 then RACETH_T = 38; /*non-Hispanic, Asian, Hawaiian Native, American Indian*/

Variable name	Variable type	Description and specifications
RACETH_T— Continued		if t0353 = 2 and Racenum = 1000 then RACETH_T = 39; /*non-Hispanic, Black*/ if t0353 = 2 and Racenum = 1001 then RACETH_T = 40; /*non-Hispanic, Black, American Indian*/ if t0353 = 2 and Racenum = 1010 then RACETH_T = 41; /*non-Hispanic, Black, Hawaiian Native*/ if t0353 = 2 and Racenum = 1011 then RACETH_T = 42; /*non-Hispanic, Black, Hawaiian Native, American Indian*/ if t0353 = 2 and Racenum = 1100 then RACETH_T = 43; /*non-Hispanic, Black, Asian*/ if t0353 = 2 and Racenum = 1101 then RACETH_T = 44; /*non-Hispanic, Black, Asian, American Indian*/ if t0353 = 2 and Racenum = 1110 then RACETH_T = 45; /*non-Hispanic, Black, Asian, Hawaiian Native*/ if t0353 = 2 and Racenum = 1111 then RACETH_T = 46; /*non-Hispanic, Black, Asian, Hawaiian Native, American Indian*/ if t0353 = 2 and Racenum = 10000 then RACETH_T = 47; /*non-Hispanic, White*/ if t0353 = 2 and Racenum = 10001 then RACETH_T = 48; /*non-Hispanic, White, American Indian*/ if t0353 = 2 and Racenum = 10010 then RACETH_T = 49; /*non-Hispanic, White, Hawaiian Native*/ if t0353 = 2 and Racenum = 10011 then RACETH_T = 50; /*non-Hispanic, White, Hawaiian Native, American Indian*/ if t0353 = 2 and Racenum = 10100 then RACETH_T = 51; /*non-Hispanic, White, Asian*/ if t0353 = 2 and Racenum = 10101 then RACETH_T = 52; /*non-Hispanic, White, Asian, American Indian*/ if t0353 = 2 and Racenum = 10110 then RACETH_T = 53; /*non-Hispanic, White, Asian, Hawaiian Native*/ if t0353 = 2 and Racenum = 10111 then RACETH_T = 54; /*non-Hispanic, White, Asian, Hawaiian Native, American Indian*/ if t0353 = 2 and Racenum = 11000 then RACETH_T = 55; /*non-Hispanic, White, Black*/ if t0353 = 2 and Racenum = 11001 then RACETH_T = 56; /*non-Hispanic, White, Black, American Indian*/ if t0353 = 2 and Racenum = 11010 then RACETH_T = 57; /*non-Hispanic, White, Black, Hawaiian Native*/ if t0353 = 2 and Racenum = 11011 then RACETH_T = 58; /*non-Hispanic, White, Black, Hawaiian Native, American Indian*/ if t0353 = 2 and Racenum = 11100 then RACETH_T = 59; /*non-Hispanic, White, Black, Asian*/ if t0353 = 2 and Racenum = 11101 then RACETH_T = 60; /*non-Hispanic, White, Black, Asian, American Indian*/ if t0353 = 2 and Racenum = 11110 then RACETH_T = 61; /*non-Hispanic, White, Black, Asian, Hawaiian Native*/ if t0353 = 2 and Racenum = 11111 then RACETH_T = 62; /*non-Hispanic, White, Black, Asian, Hawaiian Native, American Indian*/ drop i; drop racenum;

Variable name	Variable type	Description and specifications
REGION	Frame	Census Region where 2007–08 SASS district is located. Origin: REGION from the SASS sampling frame.
		Categories include:
		1 = Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont;
		2 = Midwest: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin;
		3 = South: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia;
		4 = West: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.
REGON_TF	Created	Census region in which the current teacher's TFS school or the former teacher's home mailing address is located. Those missing this most current data use other survey information or frame information.
		Categories include:
		1 = Northeast;
		2 = Midwest;
		3 = South;
		4 = West.
		Coded as follows:
		if STTUS_TF = 2 then REGON_TF = REGION; *REGION variable from SASS;
		if STTUS_TF in (1,3) then do;
		if STATE_TF in ('09', '23', '25', '33', '34', '36', '42', '44', '50') then REGON_TF = 1;
		if STATE_TF in ('17', '18', '19', '20', '26', '27', '29', '31', '38', '39', '46', '55') then REGON_TF = 2;
		if STATE_TF in ('01', '05', '10', '11', '12', '13', '21', '22', '24', '28', '37', '40', '45', '47', '48', '51', '54') then REGON_TF = 3;
		if STATE_TF in ('02', '04', '06', '08', '15', '16', '30', '32', '35', '41', '49', '53', '56') then REGON_TF = 4; end;
RELIG	Created	Three-level private school typology as reported on the 2007–08 SASS.
		Categories include:
		1 = Catholic;
		2 = Other religious;
		3 = Nonsectarian.
		Coded as follows:
		if TYPOLOGY in (1, 2, 3) then RELIG = 1;
		if TYPOLOGY in (4, 5, 6) then RELIG = 2;
		if TYPOLOGY gt 6 then RELIG = 3;
		For cases where the school was a non-interview, sample file or other information was used to impute (if available).
		Coded as follows:
		if sector in (1,3) then do; if RELIG = . then RELIG = -8; end;

Variable name	Variable type	Description and specifications

RSECT_TF	Frame	School sector for the 2008–09 TFS school. Determined by classification on survey data.
		
		Coded as follows:
		if STTUS_TF = 2 then RSECT_TF = SECTOR;
		if STTUS_TF = 1 then RSECT_TF = -8;
		if STTUS_TF = 3 then do;
		if FORYN = 1 then RSECT_TF = -8;
		else if MVTYP in (1, 2, 3) then RSECT_TF = 1;
		else if MVTYP in (4, 5) then RSECT_TF = 2; end;

SCH_ISR	Created	2007–08 SASS interview status of school where teacher was selected for sample. Categories include: 1 = Interview; 2 = Noninterview.

Variable name	Variable type	Description and specifications

SCHLEVE2	Created	Four-category level of school based on grade levels offered as reported by the school, as reported in the 2007–08 SASS.
		
		Categories include:
		1 = primary: schools with at least one grade lower than 5 and no grade higher than 8;
		2 = middle: schools with no grade lower than 5 and no grade higher than 8;
		3 = high: schools with no grade lower than 7 and at least one grade higher than 8;
		4 = combined: schools with at least one grade lower than 7 and at least one grade higher than 8.
		Schools with only ungraded classes were included with combined schools. For cases where the school was a noninterview, sample file or other information was used to impute (if available).
		
		Coded as follows for public and BIE:
		if s0037 = 1 then LOWEST = 12; if s0036 = 1 then LOWEST = 11;
		if s0035 = 1 then LOWEST = 10; if s0034 = 1 then LOWEST = 9;
		if s0033 = 1 then LOWEST = 8; if s0032 = 1 then LOWEST = 7;
		if s0031 = 1 then LOWEST = 6; if s0030 = 1 then LOWEST = 5;
		if s0029 = 1 then LOWEST = 4; if s0028 = 1 then LOWEST = 3;
		if s0027 = 1 then LOWEST = 2; if s0026 = 1 then LOWEST = 1;
		if s0025 = 1 then LOWEST = 0; if s0025 = 1 then HIGHEST = 0;
		if s0026 = 1 then HIGHEST = 1; if s0027 = 1 then HIGHEST = 2;
		if s0028 = 1 then HIGHEST = 3; if s0029 = 1 then HIGHEST = 4;
		if s0030 = 1 then HIGHEST = 5; if s0031 = 1 then HIGHEST = 6;
		if s0032 = 1 then HIGHEST = 7; if s0033 = 1 then HIGHEST = 8;
		if s0034 = 1 then HIGHEST = 9; if s0035 = 1 then HIGHEST = 10;
		if s0036 = 1 then HIGHEST = 11; if s0037 = 1 then HIGHEST = 12;
		if LOWEST le 4 and HIGHEST le 8 then SCHLEVE2 = 1;
		if LOWEST ge 7 and HIGHEST ge 9 then SCHLEVE2 = 3;
		if LOWEST ge 5 and HIGHEST le 8 then SCHLEVE2 = 2;
		if LOWEST le 6 and HIGHEST ge 9 then SCHLEVE2 = 4;
		if S0038 = 1 and LOWEST lt 1 and HIGHEST lt 1 then SCHLEVE2 = 4;
		
		Private code:
		if s0432 = 1 then LOWEST = 12; if s0430 = 1 then LOWEST = 11;
		if s0428 = 1 then LOWEST = 10; if s0426 = 1 then LOWEST = 9;
		if s0424 = 1 then LOWEST = 8; if s0422 = 1 then LOWEST = 7;
		if s0420 = 1 then LOWEST = 6; if s0418 = 1 then LOWEST = 5;
		if s0416 = 1 then LOWEST = 4; if s0414 = 1 then LOWEST = 3;
		if s0412 = 1 then LOWEST = 2; if s0410 = 1 or s0408 = 1 then LOWEST = 1;
		if s0404 = 1 or s0406 = 1 then LOWEST = 0;
		if s0404 = 1 or s0406 = 1 then HIGHEST = 0;
		if s0410 = 1 or s0408 = 1 then HIGHEST = 1;
		if s0412 = 1 then HIGHEST = 2; if s0414 = 1 then HIGHEST = 3;
		if s0416 = 1 then HIGHEST = 4; if s0418 = 1 then HIGHEST = 5;
		if s0420 = 1 then HIGHEST = 6; if s0422 = 1 then HIGHEST = 7;
		if s0424 = 1 then HIGHEST = 8; if s0426 = 1 then HIGHEST = 9;
		if s0428 = 1 then HIGHEST = 10; if s0430 = 1 then HIGHEST = 11;
		if s0432 = 1 then HIGHEST = 12;
		if LOWEST le 4 and HIGHEST le 8 then SCHLEVE2 = 1;
		if LOWEST ge 7 and HIGHEST ge 9 then SCHLEVE2 = 3;
		if LOWEST ge 5 and HIGHEST le 8 then SCHLEVE2 = 2;
		if LOWEST le 6 and HIGHEST ge 9 then SCHLEVE2 = 4;
		if s0400 = 1 and LOWEST lt 1 and HIGHEST lt 1 then SCHLEVE2 = 4;

Variable name	Variable type	Description and specifications

SCHLEVEL	Created	Three-category level of school based on grade levels offered as reported by the school, as reported in the 2007–08 SASS.
		
		Categories include:
		1 = Elementary;
		2 = Secondary;
		3 = Combined.
		
		Coded as follows:
		SCHLEVEL = 1 if school has any of grades K–6 and none of grades 9–12 (elementary);
		SCHLEVEL = 2 if school has any of grades 7–12 and none of grades K–6 (secondary);
		SCHLEVEL = 3 for all other cases (combined).
		
		For cases where the school was a noninterview, sample file or other information was used to impute (if available).
		
		Coded as follows for public and BIE:
		EDKG6 = sum(of s0025 s0026 s0027 s0028 s0029 s0030 s0031);
		ED912 = sum(of s0034 s0035 s0036 s0037);
		ED712 = sum(of s0032 s0033 s0034 s0035 s0036 s0037);
		if EDKG6 >= 1 and ED912 < 1 and s0038 < 1 THEN SCHLEVEL = 1;
		else if s0038 = 1 and EDKG6 >= 1 and ED912 < 1 THEN SCHLEVEL = 1;
		else if s0038 < 1 and EDKG6 < 1 THEN SCHLEVEL = 2;
		else if s0038 = 1 and EDKG6 < 1 and ED712 >= 1 THEN SCHLEVEL = 2;
		else SCHLEVEL = 3;
		
		Private code:
		edkg6 = 0; ed912 = 0; ed712 = 0; Array elem[9] s0404 s0406 s0408 s0410 s0412 s0414 s0416 s0418 s0420; do i = 1 to 9;
		if elem [i] = 1 then edkg6 + 1; drop i; end; Array sec[4] s0426 s0428 s0430 s0432; do i = 1 to 4;
		if sec[i] = 1 then ed912+1; drop i; end; Array comb[6] s0422 s0424 s0426 s0428 s0430 s0432; do i = 1 to 6;
		if comb[i] = 1 then ed712+1; drop i; end;
		if EDKG6 >= 1 and ED912 < 1 and s0400 = 2 then SCHLEVEL = 1;
		else if s0400 = 1 and EDKG6 >= 1 and ED912 < 1 then SCHLEVEL = 1;
		else if s0400 = 2 and EDKG6 < 1 then SCHLEVEL = 2;
		else if s0400 = 1 and EDKG6 < 1 and ED712 >= 1 then SCHLEVEL = 2;
		else SCHLEVEL = 3; end;

Variable name	Variable type	Description and specifications
SCHSIZE	Created	Categorical measure of the total K–12 and ungraded enrollment in the school, as reported in the 2007–08 SASS.

Categories include:
1 = 1–49;
2 = 50–99;
3 = 100–149;
4 = 150–199;
5 = 200–349;
6 = 350–499:
7 = 500–749;
8 = 750–999;
9 = 1,000–1,199;
10 = 1,200–1,499;
11 = 1,500–1,999;
12 = 2,000 or more.
For cases where the school was a noninterview, sample file or other information was used to impute (if available).

Coded as follows for school files:
if 1 le S0047 lt 50 then SCHSIZE = 1;
if 50 le S0047 le 99 then SCHSIZE = 2;
if 100 le S0047 le 149 then SCHSIZE = 3;
if 150 le S0047 le 199 then SCHSIZE = 4;
if 200 le S0047 le 349 then SCHSIZE = 5;
if 350 le S0047 le 499 then SCHSIZE = 6;
if 500 le S0047 le 749 then SCHSIZE = 7;
if 750 le S0047 le 999 then SCHSIZE = 8;
if 1000 le S0047 le 1199 then SCHSIZE = 9;
if 1200 le S0047 le 1499 then SCHSIZE = 10;
if 1500 le S0047 le 1999 then SCHSIZE = 11;
if S0047 ge 2000 then SCHSIZE = 12;

All other files:
if 1 le ENRK12UG lt 50 then SCHSIZE = 1;
if 50 le ENRK12UG le 99 then SCHSIZE = 2;
if 100 le ENRK12UG le 149 then SCHSIZE = 3;
if 150 le ENRK12UG le 199 then SCHSIZE = 4;
if 200 le ENRK12UG le 349 then SCHSIZE = 5;
if 350 le ENRK12UG le 499 then SCHSIZE = 6;
if 500 le ENRK12UG le 749 then SCHSIZE = 7;
if 750 le ENRK12UG le 999 then SCHSIZE = 8;
if 1000 le ENRK12UG le 1199 then SCHSIZE = 9;
if 1200 le ENRK12UG le 1499 then SCHSIZE = 10;
if 1500 le ENRK12UG le 1999 then SCHSIZE = 11;
if ENRK12UG ge 2000 then SCHSIZE = 12;

Variable name	Variable type	Description and specifications

SC_ORGID	Frame	Original NCES school ID for select Nebraska, New England, and charter schools from the 2007–08 SASS. For some Nebraska, New England, and charter schools, associated district-level data were collected from an entity other than the district identified on CCD. Digits 1–7 refer to the district as identified by the CCD rather than the entity interviewed in SASS. A valid skip (-8) is applied if no changes were made to the NCES ID. Origin: SC_ORGID on the SASS sampling frame. Digit 1–2: FIPS state code. Digit 3–7: District code. Digit 8–12: School code.
		
		 Coded as follows:
		 if STTUS_TF = 2 and SECTOR = 1 then SC_ORGID = SC_ORGID;
		 else SC_ORGID = -8;

SCWT1FLG	Frame	School-wide Title I program eligibility identifier for the 2007–08 SASS school. A program in which all the pupils in a school are designated under appropriate state and federal regulations as being eligible for participation in programs authorized by Title I of Public Law 103-382. Origin: STITLI05 from 2005–06 CCD. Categories include: 1 = School is eligible for school-wide Title I program; 2 = School is not eligible for school-wide Title I program; -8 = valid skip; -9 = missing. Coded as follows: if sector = 2 then do; SCWT1FLG = -8; end;
SC_ZIP	Frame	Five-digit zip code for the physical location of the 2007–08 SASS school. Origin: SC_ZIP on SASS sampling frame.
SECTOR	Frame	2007–08 SASS school sector. Determined by classification on sampling frames and/or survey data. See the *Documentation for the 2007–08 Schools and Staffing Survey* (NCES 2010-332) for details. Categories include: 1 = Public; 2 = Private.

Variable name	Variable type	Description and specifications
SLOCP12	Frame	Urban-centric locale code for 2007–08 SASS school. This methodology was updated to incorporate 2000 Census population and geography information (e.g., using Consolidated Statistical Area/Core Based Statistical Area—CSA/CBSA—geographical entities instead of Metropolitan Statistical Area, or MSA, entities). For more information please see http://nces.ed.gov/ccd/pdf/sl051bgen.pdf or refer to the *Documentation to the NCES Common Core of Data Public Elementary/Secondary School Locale Code File: School Year 2005–06* (NCES 2008-332). Origin: ULOCALE from the 2005–06 CCD Elementary/Secondary Locale Code File. Categories include: 11 = City, Large: Territory inside an urbanized area and inside a principal city with population of 250,000 or more; 12 = City, Midsize: Territory inside an urbanized area and inside a principal city with population less than 250,000 and greater than or equal to 100,000; 13 = City, Small: Territory inside an urbanized area and inside a principal city with population less than 100,000; 21 = Suburb, Large: Territory outside a principal city and inside an urbanized area with population of 250,000 or more; 22 = Suburb, Midsize: Territory outside a principal city and inside an urbanized area with population less than 250,000 and greater than or equal to 100,000; 23 = Suburb, Small: Territory outside a principal city and inside an urbanized area with population less than 100,000; 31 = Town, Fringe: Territory inside an urban cluster that is less than or equal to 10 miles from an urbanized area; 32 = Town, Distant: Territory inside an urban cluster that is more than 10 miles and less than or equal to 35 miles from an urbanized area; 33 = Town, Remote: Territory inside an urban cluster that is more than 35 miles from an urbanized area; 41 = Rural, Fringe: Census-defined rural territory that is less than or equal to 5 miles from an urbanized area, as well as rural territory that is less than or equal to 2.5 miles from an urban cluster; 42 = Rural, Distant: Census-defined rural territory that is more than 5 miles but less than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but less than or equal to 10 miles from an urban cluster; 43 = Rural, Remote: Census-defined rural territory that is more than 25 miles from an urbanized area and is also more than 10 miles from an urban cluster.

Variable name	Variable type	Description and specifications
SLOCP12_TF		Urban-centric locale code for 2008–09 TFS school. This methodology was updated to incorporate 2000 Census population and geography information (e.g., using Consolidated Statistical Area/Core Based Statistical Area—CSA/CBSA—geographical entities instead of Metropolitan Statistical Area, or MSA, entities). For more information please see http://nces.ed.gov/ccd/pdf/sl051bgen.pdf or refer to the *Documentation to the NCES Common Core of Data Public Elementary/Secondary School Locale Code File: School Year 2005–06* (NCES 2008-332). Origin: ULOCALE from the 2005–06 CCD Elementary/Secondary Locale Code File.

Categories include:
11 = City, Large: Territory inside an urbanized area and inside a principal city with population of 250,000 or more;
12 = City, Midsize: Territory inside an urbanized area and inside a principal city with population less than 250,000 and greater than or equal to 100,000;
13 = City, Small: Territory inside an urbanized area and inside a principal city with population less than 100,000;
21 = Suburb, Large: Territory outside a principal city and inside an urbanized area with population of 250,000 or more;
22 = Suburb, Midsize: Territory outside a principal city and inside an urbanized area with population less than 250,000 and greater than or equal to 100,000;
23 = Suburb, Small: Territory outside a principal city and inside an urbanized area with population less than 100,000;
31 = Town, Fringe: Territory inside an urban cluster that is less than or equal to 10 miles from an urbanized area;
32 = Town, Distant: Territory inside an urban cluster that is more than 10 miles and less than or equal to 35 miles from an urbanized area;
33 = Town, Remote: Territory inside an urban cluster that is more than 35 miles from an urbanized area;
41 = Rural, Fringe: Census-defined rural territory that is less than or equal to 5 miles from an urbanized area, as well as rural territory that is less than or equal to 2.5 miles from an urban cluster;
42 = Rural, Distant: Census-defined rural territory that is more than 5 miles but less than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but less than or equal to 10 miles from an urban cluster;
43 = Rural, Remote: Census-defined rural territory that is more than 25 miles from an urbanized area and is also more than 10 miles from an urban cluster.

Coded as follows:
if STTUS_TF = 2 then SLOCP12_TF = SLOCP12;
else if STTUS_TF = 3 then SLOCP12_TF = ULOCAL06;

Variable name	Variable type	Description and specifications
SRVEY_TF	Frame	Indicates whether the respondent completed the former teacher survey or the current teacher survey.

Categories include:
1 = former teacher;
2 = current teacher.

Coded as follows:
if USERTYPE in ('NF', 'LF') then SRVEY_TF = 1;
else if USERTYPE in ('NC', 'LC') then SRVEY_TF = 2;

Variable name	Variable type	Description and specifications

STABB_TF	Created	Provides the two-letter state abbreviation for the state in which the current teacher's TFS school or the former teacher's home mailing address is located. Missing data were filled with other survey or frame information. Source of data is identified in flag variable, FL_STATF.
		
		Coded as follows:
		if STTUS_TF = 2 then STABB_TF = STAT_ABB;
		if STTUS_TF = 3 then do; STABB_TF = SCSTA;
		else if USTAT ne . then STABB_TF = USTAT; else STABB_TF = ST;
		if STABB_TF = '.' then STABB_TF = STAT_ABB; end;
		if STTUS_TF = 1 then do;
		if USTAT ne . then STABB_TF = USTAT; else STABB_TF = ST;
		if STABB_TF = '.' then STABB_TF = STAT_ABB; end;

STATE	Frame	FIPS state code for 2007–08 SASS district that identifies the state with administrative control over the district and the schools within that district. Origin: STATE on the SASS sampling frame. DOD and BIE school locations are based on the physical location of the school. For a complete list of FIPS codes, reference http://www.itl.nist.gov/fipspubs/fip5-2.htm or refer to the *Documentation for the 2007–08 Schools and Staffing Survey* (NCES 2010-332). Categories include: 01 = Alabama; 21 = Kentucky; 38 = North Dakota; 02 = Alaska; 22 = Louisiana; 39 = Ohio; 04 = Arizona; 23 = Maine; 40 = Oklahoma; 05 = Arkansas; 24 = Maryland; 41 = Oregon; 06 = California; 25 = Massachusetts; 42 = Pennsylvania; 08 = Colorado; 26 = Michigan; 44 = Rhode Island; 09 = Connecticut; 27 = Minnesota; 45 = South Carolina; 10 = Delaware; 28 = Mississippi; 46 = South Dakota; 11 = District of Columbia; 29 = Missouri; 47 = Tennessee; 12 = Florida; 30 = Montana; 48 = Texas; 13 = Georgia; 31 = Nebraska; 49 = Utah; 15 = Hawaii; 32 = Nevada; 50 = Vermont; 16 = Idaho; 33 = New Hampshire; 51 = Virginia; 17 = Illinois; 34 = New Jersey; 53 = Washington; 18 = Indiana; 35 = New Mexico; 54 = West Virginia; 19 = Iowa; 36 = New York; 55 = Wisconsin; 20 = Kansas; 37 = North Carolina; 56 = Wyoming.
STATE_TF	Created	The state (FIPS code) in which the current teacher's TFS school or the former teacher's home mailing address is located. Missing data were filled with other survey or frame information. Source of data is identified in flag variable, FL_STATF. Coded as follows: if STTUS_TF = 2 then STATE_TF = STATE; if STTUS_TF in (1,3) then do; if STABB_TF = 'AL' then STATE_TF = '01'; if STABB_TF = 'AK' then STATE_TF = '02'; if STABB_TF = 'AZ' then STATE_TF = '04'; if STABB_TF = 'AR' then STATE_TF = '05'; if STABB_TF = 'CA' then STATE_TF = '06'; if STABB_TF = 'CO' then STATE_TF = '08'; if STABB_TF = 'CT' then STATE_TF = '09';

Variable name	Variable type	Description and specifications
STATE_TF— Continued		if STABB_TF = 'DE' then STATE_TF = '10'; if STABB_TF = 'DC' then STATE_TF = '11'; if STABB_TF = 'FL' then STATE_TF = '12'; if STABB_TF = 'GA' then STATE_TF = '13'; if STABB_TF = 'HI' then STATE_TF = '15'; if STABB_TF = 'ID' then STATE_TF = '16'; if STABB_TF = 'IL' then STATE_TF = '17'; if STABB_TF = 'IN' then STATE_TF = '18'; if STABB_TF = 'IA' then STATE_TF = '19'; if STABB_TF = 'KS' then STATE_TF = '20'; if STABB_TF = 'KY' then STATE_TF = '21'; if STABB_TF = 'LA' then STATE_TF = '22'; if STABB_TF = 'ME' then STATE_TF = '23'; if STABB_TF = 'MD' then STATE_TF = '24'; if STABB_TF = 'MA' then STATE_TF = '25'; if STABB_TF = 'MI' then STATE_TF = '26'; if STABB_TF = 'MN' then STATE_TF = '27'; if STABB_TF = 'MS' then STATE_TF = '28'; if STABB_TF = 'MO' then STATE_TF = '29'; if STABB_TF = 'MT' then STATE_TF = '30'; if STABB_TF = 'NE' then STATE_TF = '31'; if STABB_TF = 'NV' then STATE_TF = '32'; if STABB_TF = 'NH' then STATE_TF = '33'; if STABB_TF = 'NJ' then STATE_TF = '34'; if STABB_TF = 'NM' then STATE_TF = '35'; if STABB_TF = 'NY' then STATE_TF = '36'; if STABB_TF = 'NC' then STATE_TF = '37'; if STABB_TF = 'ND' then STATE_TF = '38'; if STABB_TF = 'OH' then STATE_TF = '39'; if STABB_TF = 'OK' then STATE_TF = '40'; if STABB_TF = 'OR' then STATE_TF = '41'; if STABB_TF = 'PA' then STATE_TF = '42'; if STABB_TF = 'RI' then STATE_TF = '44'; if STABB_TF = 'SC' then STATE_TF = '45'; if STABB_TF = 'SD' then STATE_TF = '46'; if STABB_TF = 'TN' then STATE_TF = '47'; if STABB_TF = 'TX' then STATE_TF = '48'; if STABB_TF = 'UT' then STATE_TF = '49'; if STABB_TF = 'VT' then STATE_TF = '50'; if STABB_TF = 'VA' then STATE_TF = '51'; if STABB_TF = 'WA' then STATE_TF = '53'; if STABB_TF = 'WV' then STATE_TF = '54'; if STABB_TF = 'WI' then STATE_TF = '55'; if STABB_TF = 'WY' then STATE_TF = '56'; end;

Variable name	Variable type	Description and specifications
STRATA	Created	Private school orientation stratum as reported on the 2007–08 SASS. Categories have changed since the 2003–04 administration. For more information, please see chapter 4 of the *Documentation for the 2007–08 Schools and Staffing Survey* (NCES 2010-332). For cases where the school was a noninterview, sample file or other information was used to impute (if available).
		Categories include: 1 = Catholic-Parochial; 2 = Catholic-Diocesan; 3 = Catholic-Private; 4 = Baptist; 5 = Jewish; 6 = Lutheran; 7 = Seventh-Day Adventist; 8 = Other Religious; 9 = Nonsectarian-Regular; 10 = Nonsectarian-Special Emphasis; 11 = Nonsectarian-Special Education; -8 = Respondent taught in a public school in the 2007–08 SASS.

		Coded as follows:
		if TYPOLOGY = 1 then STRATA = 1;
		else if TYPOLOGY = 2 then STRATA = 2;
		else if TYPOLOGY = 3 then STRATA = 3;
		else if s0440 = 5 then STRATA = 4;
		else if s0440 = 18 then STRATA = 5;
		else if s0440 in (20,21,22,23) then STRATA = 6;
		else if s0440 = 28 then STRATA = 7;
		else if s0440 in (2,3,4,6,7,8,9,10,11,12,13,14,15,16,17,19,24,25,26,27,29) then STRATA = 8;
		else if TYPOLOGY = 7 then STRATA = 9;
		else if TYPOLOGY = 8 then STRATA = 10;
		else if TYPOLOGY = 9 then STRATA = 11;
		if sector in (1,3) then do; if STRATA = . then STRATA = -8; end;

STTUS_TF	Created	Respondents to the TFS are classified as either stayers, movers, or leavers. Stayers are teachers who were teaching in the same school in the current school year as in the base year. Movers are teachers who were still teaching but had moved to a different school after the base year. Leavers are teachers who left the teaching profession after the base year.
		Categories include: 1 = leaver; 2 = stayer; 3 = mover.

		Coded as follows:
		if MOVYN = 1 then STTUS_TF = 2;
		if MOVYN = 2 then STTUS_TF = 3;
		if REGCL = 2 or (REGCL = 1 and POSSC in (8,9,10)) then STTUS_TF = 1;

Variable name	Variable type	Description and specifications
STU_TCH	Created	Estimated number of students per full-time equivalent (FTE) teacher in the school, as reported in the 2007–08 SASS. For cases where the school was a noninterview, sample file or other information was used to impute (if available). Calculated as follows for school files: STU_TCH = (INT((s0047/NUMTCH)*10e3)/10e3); For all other files: STU_TCH = (INT((ENRK12UG/NUMTCH)*10e3)/10e3);

SUBMT_TF	Frame	Indicates the method used to submit the TFS interview and whether the TFS interview was respondent or interviewer completed.
		
		Categories include:
		1 = submitted via mail;
		2 = submitted via internet, respondent completed;
		3 = submitted via internet, interviewer completed.
		
		Coded as follows:
		if isr = 1 then do; if doctype ne ' ' then SUBMT_TF = 1;
		if net_code = '01' and doctype = ' ' and net_whocomp = '1' then SUBMT_TF = 2; if net_code = '01' and doctype = ' ' and net_whocomp = '2' then SUBMT_TF = 3; if net_code = '15' and doctype = ' ' then SUBMT_TF = 2; end;

TEALEV	Created	Grade level of students taught by teacher, as reported in the 2007–08 SASS. Teachers are grouped into four categories based on the grade levels of students taught and the teacher's main assignment.
		
		Categories include:
		1 = primary,
		2 = middle,
		3 = high,
		4 = combined;
		
		Coded as follows:
		array x(51:63) t0051-t0063; do i = 51 to 63;
		if x(i) = -8 then x(i) = .; end;
		if t0067 in (101, 102) then e1 = 1;
		else if t0067 = 110 and t0068 = 3 then sp = 1;
		if n(of t0051-t0063) > 0 then do;
		if n(of t0061-t0063) > 0 then TEALEV = 3;
		else if t0060 = 1 and n(of t0051-t0059 t0061-t0063) = 0 then TEALEV = 3;
		else if n(of t0051-t0055) > 0 and n(of t0056-t0063) = 0 then TEALEV = 1;
		else if e1 = 1 then TEALEV = 1;
		else if sp = 1 then TEALEV = 1;
		else TEALEV = 2; end;
		else do; TEALEV = 4; end; array y(51:63) t0051-t0063; do i = 51 to 63;
		if y(i) = . then y(i) = -8; end;

TLEV2_03	Created	TLEV2_03 divides teachers into elementary or secondary based on a combination of the grades taught, main teaching assignment, and the structure of their classes as reported in the 2007–08 SASS. Those with only ungraded classes become elementary level teachers if their main assignment is Early childhood/Pre-K or Elementary, or they teach either special education in a self-contained classroom or an elementary enrichment class. All other teachers with

Variable name	Variable type	Description and specifications

TLEV2_03—
  Continued
		ungraded classes are classified as secondary level. Among teachers with regularly graded classes, elementary level teachers generally teach any of grades Pre-K–5; report an Early childhood/Pre-K, Elementary, Self-contained special education, or Elementary enrichment main assignment; or the majority of grades taught are K–6. In general, secondary level teachers instruct any of grades 7–12 but usually no grade lower than 5th. They also teach more of grades 7–12 than lower level grades.
		
		Categories include:
		1 = elementary;
		2 = secondary.
		
		Coded as follows:
		array x(50:68) t0050-t0068; do i = 50 to 68;
		if x(i) = -8 then x(i) = .; end;
		if t0064 = 1 and sum(of t0050--t0063) < 1 then do;/* UNGRADED, AND NO PRE--K -- 12 */
		if (t0067 = 110 and t0068 = 3) or t0067 in (101,102) or t0068 = 2 then tlev2_03 = 1; /*ELEMENTARY*/ else tlev2_03 = 2; /*SECONDARY*/ end;
		else if sum(of t0050--t0056) > 0 and /*PRE-K--5TH*/ sum(of t0061--t0063) < 1 /*NO 10TH--12*/ then tlev2_03 = 1;
		else if sum(of t0050--t0056) < 1 and /*NO PRE-K--5TH*/ sum(of t0060--t0063) > 0 /*9TH--12TH*/ then tlev2_03 = 2;
		else if t0058 >= 1 or t0059 >= 1 or /*7TH or 8TH*/ (sum(of t0050--t0057)>0 and /*or PRE-K--6TH AND 9TH--12TH*/ sum(of t0060--t0063)>0) then do;
		if t0067 in (101,102) or t0068 = 2 then tlev2_03 = 1; /*PRE-K,KG,GEN.ELEM or ELEM ENRICH*/
		else if t0067 = 110 then do; /*SPECIAL ED*/
		if t0068 = 3 then tlev2_03 = 1; /*if SELF-CONTAINED, then ELEMENTARY*/
		else tlev2_03 = 2; /*ALL OTHERS, SECONDARY*/ end;
		else if sum(of t0056--t0060)>0 and /*5TH--9TH*/ sum(of t0064,t0050--t0055)<1 then tlev2_03 = 2; /*UG--4TH*/
		else if t0068 = 2 then tlev2_03 = 1; /*ELEM ENRICHMENT*/
		else if sum(of t0058--t0063) = 6 and /*7TH--12TH*/ t0067 >= 141 then tlev2_03 = 2;
		else if sum(of t0052--t0057) = 6 and /*1ST--6TH*/ t0067 in (101,102) then tlev2_03 = 1;
		else if sum(of t0052--t0057) > /*1ST--6TH*/ sum(of t0058--t0063) then tlev2_03 = 1; /*7TH--12TH*/
		else if sum(of t0052--t0057) < /*1ST--6TH*/ sum(of t0058--t0063) then tlev2_03 = 2; /*7TH--12TH*/
		else if sum(of t0052--t0057) = /*1ST--6TH*/ sum(of t0058--t0063) then do;
		/*7TH--12TH*/ if t0067 in (101,102,110) or t0068 = 2 then tlev2_03 = 1;
		/*ELEMENTARY*/ else tlev2_03 = 2; /*SECONDARY*/ end; end;
		else if sum(of t0051--t0056) > /*K--5TH*/ sum(of t0058--t0063) then tlev2_03 = 1; /*7TH--12TH*/
		else if sum(of t0051--t0056) < /*K--5TH*/ sum(of t0058--t0063) then tlev2_03 = 2; /*7TH--12TH*/
		else if t0067 = 102 then tlev2_03 = 1; /*KG & GENL ELEM*/
		else if t0067 = 110 and /*special ed*/ t0068 = 3 then tlev2_03 = 1; /*self-cont*/
		else if t0068 = 2 then tlev2_03 = 1; /*elem enrich*/ else tlev2_03 = 2; array y(50:68) t0050-t0068; do i = 50 to 68; if y(i) = . then y(i) = -8; end;

Variable name	Variable type	Description and specifications
TOTYREXP_S	Created	Teacher's adjusted years of teaching experience, as reported in the 2007–08 SASS. Experience is calculated as the sum of years taught full or part-time in public and private schools. Teaching experience may overlap by sector (public and private) or status (full- or part-time). To adjust for this, TOTYREXP cannot sum to more than the number of years that have elapsed between the year the teacher began teaching (T0037) and the survey year 2008. Teachers who began teaching in the 2007–08 school year are assigned 1 year of experience. For some cases, data differ from SASS variable TOTYREXP because of updated information received during the 2008–09 data collection.
		if t0037 = TCHYR or TCHYR = . then TOTYREXP_S = TOTYREXP; else if T0037 ne TCHYR then do; ARRAY x(38:42) t0038-t0042; do i = t0038 to t0042; if x(i) = -8 then x(i) =.; end; TOTYREXP = sum (t0038, t0039, t0041, t0042); TYRPOSS = sum (2008, -TCHYR); if TYRPOSS = 0 then TYRPOSS = 1; if TOTYREXP gt TYRPOSS then TOTYREXP_S = TYRPOSS; drop TYRPOSS; ARRAY y(38:42) t0038-t0042; do i = t0038 to t0042; if y(i) = . then y(i) = -8; end; end;
TTEXP_TF	Created	TFS teacher's total number of years teaching full or part-time in public and private schools. For leavers, TTEXP_TF equals the total years of teaching experience (TOTYREXP_S) as reported on the SASS teacher record. For stayers and movers, 1 year is added to TOTYREXP_S to include the 2008–09 school year.
		Coded as follows: if STTUS_TF = 1 then TTEXP_TF = TOTYREXP_S; if STTUS_TF in (2,3) the TTEXP_TF = sum (TOTYREXP_S, 1);
UNION_S	Created	Teacher's union membership status as reported on the 2007–08 SASS. Copied from SASS teacher variable T0351.
		Categories include: 1 = Member of a teacher's union; 2 = Not a member of a teacher's union.
		Coded as follows: UNION_S = T0351;

Variable name	Variable type	Description and specifications

URBANS12	Frame	This is a 4-level collapse of SLOCP12 (urban-centric school locale code) for the 2007–08 SASS school. Methodology was updated to incorporate 2000 Census population and geography information.
		
		Categories include:
		1 = City,
		2 = Suburb,
		3 = Town,
		4 = Rural.
		
		Coded as follows:
		if SLOCP12 in (11, 12, 13) then URBANS12 = 1;
		if SLOCP12 in (21, 22, 23) then URBANS12 = 2;
		if SLOCP12 in (31, 32, 33) then URBANS12 = 3;
		if SLOCP12 in (41, 41, 43) then URBANS12 = 4;

URBNS12_TF	Frame	This is a 4-level collapse of SLOCP12 (urban-centric school locale code) for the 2008–09 TFS school. Methodology was updated to incorporate 2000 Census population and geography information.
		
		Categories include:
		1 = City,
		2 = Suburb,
		3 = Town,
		4 = Rural.
		
		Coded as follows:
		if SLOCP12_TF in (11, 12, 13) then URBNS12_TF = 1;
		if SLOCP12_TF in (21, 22, 23) then URBNS12_TF = 2;
		if SLOCP12_TF in (31, 32, 33) then URBNS12_TF = 3;
		if SLOCP12_TF in (41, 42, 43) then URBNS12_TF = 4;

ZIP_TF	Created	The ZIP code in which the current teacher's TFS school or the former teacher's home mailing address is located. Missing data were filled with other survey or frame information. Source of data is identified in flag variable, FL_ZIPTF.
		
		Coded as follows:
		if STTUS_TF = 2 then ZIP_TF = SC_ZIP;
		if STTUS_TF = 3 then do;
		if SCZIP ne . then ZIP_TF = SCZIP;
		else if UZIP5 ne . then ZIP_TF = UZIP5;
		else ZIP_TF = zip; else if zip = '.' then ZIP_TF = SC_ZIP; end;
		if STTUS_TF = 1 then do;
		if UZIP5 ne . then ZIP_TF = UZIP5; else ZIP_TF = zip;
		else if zip = '.' then ZIP_TF = SC_ZIP; end;

Appendix M. Crosswalk Among Items in the 2000–01, 2004–05, and 2008–09 TFS and With the 2007–08 SASS

The TFS variable crosswalks are presented in the following order:

The crosswalk for the Questionnaire for Current Teachers includes a comparison to the 2007–08 Schools and Staffing Survey (SASS) Teacher Questionnaire because a few items on the current teacher questionnaire were drawn from the 2007–08 SASS in order to provide direct comparisons in the teacher's responses to various items between the 2007–08 and 2008–09 school years.

Within each questionnaire crosswalk, variables are listed in 2008–09 item order. If there is a blank in the variable's name for the 2000–01 or 2004–05 TFS or the 2007–08 SASS, then that particular 2008–09 item did not have an equivalent item in the other survey administrations. Variables from the 2000–01 and 2004–05 TFS and the 2007–08 SASS are categorized by how closely they "match" the corresponding variable in the 2008–09 questionnaires:

- *Exact*. The question wording and format are exactly the same.
- *Near*. The question content is the same, but there have been minor changes to the question wording or format.
- *Content*. The general content of or subject addressed by the item is the same, but the question wording or format has been changed significantly.

Questionnaire for Former Teachers (TFS-2): 2000–01 through 2008–09

2008–09 TFS Variable name	2004–05 TFS			2000–01 TFS		
	Variable name	Match	Comments	Variable Name	Match	Comments
REGCL	F0050	Exact		F0050	Content	Did not include pre-K teachers.
ONLVE	F0550	Near				
POSSC	F0051	Exact		F0051	Near	
FRPOP	F0552	Exact		F0052	Near	
TREXP	F5552	Near				
OCCST	F0553	Near		F0053	Near	
OCCSP	F5553	Near		F5053	Exact	
OCCYN	F0554	Exact				
OCCTL	F5555	Exact		F5055	Near	
OCCAC	F5556	Near		F9055	Near	
OCCCL	F0557	Near		F0056	Exact	
SCOCC	NEW					
SCOSP	NEW					
SCTYP	NEW					
OCCFP	F0558	Content	New response categories.	F0057	Exact	
OCCSA	F0559	Near		F0058	Near	
Deleted	F0560					
Deleted	F0561					
Deleted	F0562			F0059	Content	New response categories.
Deleted	F0563					
Deleted	F0564					
PENYN	F0214	Content	Question wording referred to 401(k)/403(b); revised item asks only about a pension from a teacher retirement system.	F0078	Content	Asked only about a teacher retirement system.
PENAM	NEW					
RINYN	F0565	Near		F0088	Near	
RINST	F0566	Near		F0089	Near	
LCNYN	NEW					
LCNRS	NEW					
LCNSP	NEW					
LVHOM	F0567	Content	Item did not include more convenient job location. Structure of set of items revised.	F0061	Near	
LVCHI	F0568	Content	Structure of set of items revised.	F0062	Near	
LVHEA	F0569	Content	Structure of set of items revised.	F0063	Near	
LVRET	F0570	Content	Structure of set of items revised.	F0064	Near	

Questionnaire for Former Teachers (TFS-2): 2000–01 through 2008–09—Continued

2008–09 TFS Variable name	2004–05 TFS			2000–01 TFS		
	Variable name	Match	Comments	Variable Name	Match	Comments
LVTES	NEW					
LVITR	F0571	Content	Structure of set of items revised.	F0066	Near	
LVDES	NEW					
LVGSU	F0577	Content	Structure of set of items revised.			
LVSAL	NEW					
LVBEN	F0572	Content	Revised item separates benefits from salary. Structure of set of items revised.	F0068	Near	
LVLIV	NEW					
LVSEC	NEW					
LVNPO	F0573	Content	Structure of set of items revised.	F0069	Near	
LVDEV	NEW					
LVWED	F0574	Content	Structure of set of items revised.	F0070	Near	
LVOED	F0575	Content	Structure of set of items revised.	F0071	Near	
LVTCH	F0576	Content	Structure of set of items revised.			
LVAUT	NEW					
LVNUM	NEW					
LVMST	NEW					
LVINT	NEW					
LVCON	NEW					
LVDIS	NEW					
LVADM	NEW					
LVSUP	NEW					
LVNOI	NEW					
LVAIM	NEW					
LVARW	NEW					
LVASP	NEW					
LVACU	NEW					
LVAOT	NEW					
LVOTH	NEW					
LVOSP	NEW					
Deleted	F0578			F0077	Near	
LVIMP	F0579	Content	Structure of set of items revised.			

Questionnaire for Former Teachers (TFS-2): 2000–01 through 2008–09—Continued

2008–09 TFS Variable name	2004–05 TFS Variable name	Match	Comments	2000–01 TFS Variable Name	Match	Comments
Deleted	F0173			F0127	Content	Question wording referred to instructional leader rather than principal/school head.
Deleted	F0174			F0128	Content	Question wording referred to instructional leader rather than principal/school head.
Deleted	F0175			F0129	Content	Revised wording to response. Question wording referred to instructional leader rather than principal/school head.
Deleted	F0176			F0130	Content	Question wording referred to instructional leader rather than principal/school head.
Deleted	F0177			F0131	Content	Question wording referred to instructional leader rather than principal/school head.
Deleted	F0178			F0132	Content	Revised wording to response. Question wording referred to instructional leader rather than principal/school head.
Deleted	F0179			F0133	Content	Revised wording to response. Question wording referred to instructional leader rather than principal/school head.
Deleted	F0180			F0134	Content	Question wording referred to instructional leader rather than principal/school head.
Deleted	F0181					
Deleted	F0182					
Deleted	F0183					
Deleted	F0184					
Deleted	F0185					
Deleted	F0186					
Deleted	F0187					
OCCSH	F0580	Near		F0135	Near	
OPSAL	F0581	Exact		F0136	Near	
OPBEN	F0582	Exact		F0145	Near	
OPADV	F0583	Exact		F0137	Near	
OPDEV	F0584	Exact		F0138	Near	
OPLRN	F0585	Exact		F0139	Near	
OPREL	F0586	Exact				
OPADM	F0587	Exact		F0140	Near	

Questionnaire for Former Teachers (TFS-2): 2000–01 through 2008–09—Continued

2008–09 TFS Variable name	2004–05 TFS Variable name	Match	Comments	2000–01 TFS Variable Name	Match	Comments
OPSAF	F0588	Exact		F0141	Near	
OPINF	F0589	Exact		F0142	Near	
OPAUT	F0590	Exact		F0143	Near	
OPPRE	F0591	Exact		F0144	Near	
OPEVA	F0592	Exact		F0146	Near	
OPWLD	F0593	Exact		F0147	Near	
OPBAL	F0594	Exact				
OPRES	F0595	Near		F0148	Near	
OPCON	F0596	Exact		F0149	Near	
OPSEC	F0597	Exact		F0150	Near	
OPCHA	F0598	Exact		F0152	Near	
OPACC	F0599	Exact				
OPDIF	F0600	Exact				
CITZN	NEW					
Deleted	F0601			F0153	Near	
Deleted	F0208			F0154	Content	Asked about degrees earned, rather than enrollment in courses.
Deleted	F0209			F0157	Content	Asked about type of degree, rather than description of enrollment.
Deleted	F0210			F0159–F0165	Near	
Deleted	F0211					
Deleted	F0602			F0176	Near	
Deleted	F0603			F0184	Near	
Deleted	F0604			F0179	Near	
Deleted	F0605			F0180	Near	
Deleted	F0606			F0181	Near	
Deleted	F0607					
Deleted	F0608					
Deleted	F0609					
Deleted	F0610					
Deleted	F0611			F0182	Near	
Deleted	F5611			F5182	Near	
Deleted	F9611			F5182	Near	
Deleted	F0612					
Deleted	F0613			F0183	Near	
Deleted	F0231			F0194	Content	Response categories are comparable, but have been revised.
Deleted	F0232			F0196	Content	Asked about dependents rather than household size.

Questionnaire for Former Teachers (TFS-2): 2000–01 through 2008–09—Continued

2008–09 TFS	2004–05 TFS			2000–01 TFS		
Variable name	Variable name	Match	Comments	Variable Name	Match	Comments
Deleted	F0233			F0197	Near	
MARCU	F0235	Near		F0195	Near	
MARCH	NEW					
MAR07	F0234	Near				
Deleted	F0236					
Deleted	F0237					
Deleted	F0238					
Deleted	F0278					
Deleted	F0279					
Deleted	F5238					
SPYOU	F0232	Content	Revised set of items refers to individuals who are financially supported.			
SPSPO	see F0232	Content	Revised set of items refers to individuals who are financially supported.			
SPLT5	F0233	Content	Revised set of items refers to individuals who are financially supported.			
SP518	see F0232	Content	Revised set of items refers to individuals who are financially supported.			
SP18P	see F0232	Content	Revised set of items refers to individuals who are financially supported.			

Questionnaire for Current Teachers (TFS-3): 2000–01 through 2008–09 and
2007–08 SASS Teacher Questionnaire

2008–09 TFS	2004–05 TFS			2000–01 TFS			2007–08 SASS Teacher Questionnaire		
Variable Name	Variable Name	Match	Comments	Variable Name	Match	Comments	Variable Name	Match	Comments
REGCL	F0050	Exact		F0050	Content	Did not include pre-K teachers.			
POSSC	F0051	Exact		F0051	Near		T0025	Near	
TCHFP	F0052	Near	Revised item does not provide details on part-time hours.	F0552	Exact		T0028	Near	
Deleted	F0053			F0553	Near				
Deleted	F0054			F0554	Exact				
Deleted	F0055			F0555	Near				
Deleted	F5055			F5555	Exact				
Deleted	F0056			F0556	Content	Teaching assignment codes changed.			
Deleted	F5056			F5556	Content	Teaching assignment codes changed.			
Deleted	F0057			F0558	Content	Asked about certificate in main assignment. Fewer response categories.			
Deleted	F0058			F0564	Near				
Deleted	F0059			F0565	Near				
Deleted	F0060			F0566	Near				
Deleted	F0061			F0567	Near				
Deleted	F0062			F0568	Near				
Deleted	F0063			F0569	Near				
Deleted	F0064			F0570	Near				
Deleted	F0065			F0571	Near				
Deleted	F0066			F0572	Near				
Deleted	F0067			F0573	Near				
Deleted	F0068			F0574	Near				
Deleted	F0069			F0575	Near				
Deleted	F0070			F0576	Near				
Deleted	F0071			F0577	Near				
Deleted	F0072			F0563	Near				
Deleted	F0073								
Deleted	F0074								
Deleted	F0075								
Deleted	F0076								

**Questionnaire for Current Teachers (TFS-3): 2000–01 through 2008–09 and
2007–08 SASS Teacher Questionnaire—Continued**

2008–09 TFS Variable Name	2004–05 TFS Variable Name	Match	Comments	2000–01 TFS Variable Name	Match	Comments	2007–08 SASS Teacher Questionnaire Variable Name	Match	Comments
Deleted	F0077			F0622 & F0804	Content	Change in wording of main question and in response categories.			
Deleted	F0078			F0579	Content	Change in response categories.			
Deleted	F0079								
Deleted	F0080			F0589	Content	Change in wording of item and response categories.			
Deleted	F0081			F0599	Content	Change in wording of item and response categories.			
Deleted	F0082								
Deleted	F0083			F0623	Content	Change in wording of main question and in response categories.			
Deleted	F0084								
Deleted	F0085			F0624		Change in wording of main question and in response categories.			
Deleted	F0086								
Deleted	F0087			F0625		Change in wording of main question and in response categories.			
Deleted	F0088								
Deleted	F0089								
Deleted	F0090								
Deleted	F0091			F0593		Change in wording of item and response categories.			
Deleted	F0092			F0605		Change in wording of item and response categories.			

Questionnaire for Current Teachers (TFS-3): 2000–01 through 2008–09 and
2007–08 SASS Teacher Questionnaire—Continued

2008–09 TFS Variable Name	2004–05 TFS Variable Name	Match	Comments	2000–01 TFS Variable Name	Match	Comments	2007–08 SASS Teacher Questionnaire Variable Name	Match	Comments
Deleted	F0093								
Deleted	F0094								
Deleted	F0095								
Deleted	F0096			F0609		Change in question wording and response categories.			
Deleted	F0097								
Deleted	F0098								
Deleted	F0099								
Deleted	F0100								
Deleted	F0101								
Deleted	F0102								
Deleted	F0103								
Deleted	F0104								
Deleted	F0105								
Deleted	F0106								
Deleted	F0107								
Deleted	F0108								
Deleted	F0109								
Deleted	F0110								
Deleted	F0111								
Deleted	F0112								
Deleted	F0113								
Deleted	F0114								
Deleted	F0115								
Deleted	F0116								
Deleted	F0117								
Deleted	F0118								
Deleted	F0119								
Deleted	F0120								
Deleted	F0121								
Deleted	F0122								
Deleted	F0123								
Deleted	F0124								
Deleted	F0125								
Deleted	F0126								
Deleted	F0127								
Deleted	F0128								
Deleted	F0129								
Deleted	F0130								

**Questionnaire for Current Teachers (TFS-3): 2000–01 through 2008–09 and
2007–08 SASS Teacher Questionnaire—Continued**

2008–09 TFS Variable Name	2004–05 TFS			2000–01 TFS			2007–08 SASS Teacher Questionnaire		
	Variable Name	Match	Comments	Variable Name	Match	Comments	Variable Name	Match	Comments
Deleted	F0131								
Deleted	F0132								
Deleted	F0133								
Deleted	F0134								
Deleted	F0135								
MOVYN	F0136	Exact		F0692	Exact				
STTYN	F0137	Near		F0697	Near				
FORYN	F0138	Exact							
FORNM	F5138	Exact		F0698	Near				
SCNAM	F9000	Exact		F0693	Exact				
SCSTR	NEW								
SCCIT	F9005	Exact							
SCSTA	F9010	Exact		F0694	Exact				
SCZIP	F9015	Near		F0696	Exact				
SCDIS	F9025	Near							
SCCOU	F9020	Near		F0695	Exact				
SCGPK	F0144	Exact							
SCGKG	F0145	Exact							
SCG01	F0146	Exact							
SCG02	F0147	Exact							
SCG03	F0148	Exact							
SCG04	F0149	Exact							
SCG05	F0150	Exact							
SCG06	F0151	Exact							
SCG07	F0152	Exact							
SCG08	F0153	Exact							
SCG09	F0154	Exact							
SCG10	F0155	Exact							
SCG11	F0156	Exact							
SCG12	F0157	Exact							
SCGUG	F0158	Exact							
MVTYP	F0159	Near		F0700	Near				
SCREL	F0160	Near		F0701	Near				
MCNYN	NEW								
MCNRS	NEW								
MCNSP	NEW								
MVHOM	F0161	Content	Structure of set of items revised.	F0748	Content	Asked about change in residence.			
MVHEA	NEW								
MVTES	NEW								

Questionnaire for Current Teachers (TFS-3): 2000–01 through 2008–09 and
2007–08 SASS Teacher Questionnaire—Continued

2008–09 TFS Variable Name	2004–05 TFS			2000–01 TFS			2007–08 SASS Teacher Questionnaire		
	Variable Name	Match	Comments	Variable Name	Match	Comments	Variable Name	Match	Comments
MVITR	F0168	Content	Structure of set of items revised.	F0757	Near				
MVDES	F0167	Content	Structure of set of items revised.	F0754	Near				
MVGSU	F0164	Content	Item restructured to focus on last year's school. Structure of set of items revised.	F0751	Near				
MVSAL	NEW								
MVBEN	F0162	Content	Revised item separates benefits from salary. Structure of set of items revised.	F0749	Near				
MVLIV	NEW								
MVSEC	F0163	Content	Structure of set of items revised.	F0750	Near				
MVAUT	F0169	Content	Structure of set of items revised.	F0758	Near				
MVNUM	NEW								
MVMST	NEW								
MVINT	NEW								
MVDEV	F0170	Content	Structure of set of items revised.	F0759	Near				
MVCON	F0165	Content	Structure of set of items revised.	F0752	Near				
MVDIS	NEW								
MVADM	NEW								
MVSUP	F0166	Content	Structure of set of items revised.	F0753	Near				
MVNOI	NEW								
MVAIM	NEW								
MVARW	NEW								
MVASP	NEW								
MVACU	NEW								
MVAOT	NEW								
MVOTH	F0171	Content	Structure of set of items revised.	F0760	Near				
MVOSP	NEW								
MVIMP	F0172	Content	Structure of set of items revised.						
ADMCH	NEW								

**Questionnaire for Current Teachers (TFS-3): 2000–01 through 2008–09 and
2007–08 SASS Teacher Questionnaire—Continued**

2008–09 TFS	2004–05 TFS			2000–01 TFS			2007–08 SASS Teacher Questionnaire		
Variable Name	Variable Name	Match	Comments	Variable Name	Match	Comments	Variable Name	Match	Comments
Deleted	F0173			F0127	Content	Question wording referred to instructional leader rather than principal/school head.			
Deleted	F0174			F0128	Content	Question wording referred to instructional leader rather than principal/school head.			
Deleted	F0175			F0129	Content	Revised wording to response. Question wording referred to instructional leader rather than principal/school head.			
Deleted	F0176			F0130	Content	Question wording referred to instructional leader rather than principal/school head.			
Deleted	F0177			F0131	Content	Question wording referred to instructional leader rather than principal/school head.			
Deleted	F0178			F0132	Content	Revised wording to response. Question wording referred to instructional leader rather than principal/school head.			
Deleted	F0179			F0133	Content	Revised wording to response. Question wording referred to instructional leader rather than principal/school head.			

Questionnaire for Current Teachers (TFS-3): 2000–01 through 2008–09 and
2007–08 SASS Teacher Questionnaire—Continued

2008–09 TFS Variable Name	2004–05 TFS			2000–01 TFS			2007–08 SASS Teacher Questionnaire		
	Variable Name	Match	Comments	Variable Name	Match	Comments	Variable Name	Match	Comments
Deleted	F0180			F0134	Content	Question wording referred to instructional leader rather than principal/school head.			
Deleted	F0181								
Deleted	F0182								
Deleted	F0183								
Deleted	F0184								
Deleted	F0185								
Deleted	F0186								
Deleted	F0187								
TPSAL	F0188	Near							
TPBEN	F0189	Near							
TPADV	F0190	Near							
TPDEV	F0191	Near							
TPLRN	F0192	Near							
TPREL	F0193	Near							
TPADM	F0194	Near							
TPSAF	F0195	Near							
TPINF	F0196	Near							
TPAUT	F0197	Near							
TPPRE	F0198	Near							
TPEVA	F0199	Near							
TPWLD	F0200	Near							
TPBAL	F0201	Near							
TPRES	F0202	Near							
TPCON	F0203	Near							
TPSEC	F0204	Near							
TPCHA	F0205	Near							
TPACC	F0206	Near							
TPDIF	F0207	Near							
TPTAS	NEW								
SATIS	NEW						T0302	Near	
Deleted	F0208			F0154	Content	Asked about degrees earned, rather than enrollment in courses.			

Questionnaire for Current Teachers (TFS-3): 2000–01 through 2008–09 and
2007–08 SASS Teacher Questionnaire—Continued

2008–09 TFS Variable Name	2004–05 TFS			2000–01 TFS			2007–08 SASS Teacher Questionnaire		
	Variable Name	Match	Comments	Variable Name	Match	Comments	Variable Name	Match	Comments
Deleted	F0209			F0157	Content	Asked about type of degree, rather than description of enrollment.			
Deleted	F0210			F0159–F0165	Near				
Deleted	F0211								
Deleted	F0212			F0783	Content	Revised response categories.			
Deleted	F0213								
TCHSA	F0223	Near		F0796	Near		T0343	Near	
PENYN	F0214	Content	Question wording referred to 401(k)/403(b); revised item asks only about a pension from a teacher retirement system.						
PENAM	NEW								
Deleted	F0215								
Deleted	F0216								
Deleted	F0217			F0790	Near				
Deleted	F0218			F0791	Near				
Deleted	F0219			F0792	Near				
Deleted	F0220			F0793	Near				
Deleted	F0221			F0794	Near				
Deleted	F0222			F0795	Near				
Deleted	F0224			F0797	Near				
Deleted	F0225			F0798	Near				
Deleted	F0226			F0799	Near				
Deleted	F0227			F0800	Near				
Deleted	F0228			F0801	Near				
Deleted	F0229			F0802	Near				
Deleted	F0230			F0803	Near				
Deleted	F0231			F0194	Content	Response categories are comparable, but have been revised.			
CITZN	NEW								
MARCU	F0235	Near		F0195	Near				
MARCH	NEW								
MAR07	F0234	Near							

Questionnaire for Current Teachers (TFS-3): 2000–01 through 2008–09 and
2007–08 SASS Teacher Questionnaire—Continued

2008–09 TFS Variable Name	2004–05 TFS			2000–01 TFS			2007–08 SASS Teacher Questionnaire		
	Variable Name	Match	Comments	Variable Name	Match	Comments	Variable Name	Match	Comments
Deleted	F0236								
Deleted	F0237								
Deleted	F0238								
Deleted	F0278								
Deleted	F0279								
Deleted	F5238								
SPYOU	F0232	Content	Revised set of items refers to individuals who are financially supported.	F0196	Content	Asked about dependents rather than household size.			
SPSPO	see F0232	Content	Revised set of items refers to individuals who are financially supported.						
SPLT5	F0233	Content	Revised set of items refers to individuals who are financially supported.	F0197	Near				
SP518	see F0232	Content	Revised set of items refers to individuals who are financially supported.						
SP18P	see F0232	Content	Revised set of items refers to individuals who are financially supported.						