DOCUMENT RESUME

ED 373 113 TM 022 042

TITLE	An Overview of the Schools and Staffing Survey (SASS) and Teacher Followup Survey (TFS).
INSTITUTION	National Center for Education Statistics (ED), Washington, DC.
REPORT NO	NCES-94-440
PUB DATE	94
NOTE	18p.
PUB TYPE	Reports - Descriptive (141)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Career Planning; Data Analysis; *Data Collection; *Educational Planning; Educational Policy; Elementary Secondary Education; Followup Studies; *National Surveys; Policy Formation; Private Schools; Public Schools; Research Design; *Research Methodology; Sampling; Teacher Attitudes; Teacher Characteristics; Teacher Supply and Demand; *Teaching (Occupation)
IDENTIFIERS	*Schools and Staffing Survey (NCES); *Teacher Followup Survey (NCES)

ABSTRACT

The National Center for Education Statistics (NCES) integrated some of its national surveys of educational information into the Schools and Staffing Survey (SASS), which was initiated in 1987-88 and is being repeated at intervals to provide information about the nation's schools and their educators. The 1988-89 Teacher Followup Survey (TFS), a complement to the SASS, collects information about the teacher's employment and teaching status, educational activities and future plans, and opinions about school climate and the workplace. This overview describes the four SASS surveys to date and the TFS. Survey design and data collection procedures are also described. Sample selection, the imputation system for nonresponse, and other technical information are also included. The NCES wants to encourage educators, policymakers, and researchers to use data from these surveys by providing these descriptions and by making data tapes from both surveys available in public-use and restricted use (approved research) versions. The 1987-88 SASS sample included 9,317 public schools and 3,513 private schools, a finding that suggests the widespread utility of these surveys. Two tables and six figures illustrate the overview. (SLD)

An Overview of the SASS and TFS

U.S. Department of Education
National Center for Education Statistics
NCES 94-440

An Overview of the Schools and Staffing Survey and Teacher Followup Survey

Introduction

In the mid 1980s, the National Center for Education Statistics (NCES) — a component of the Office of Educational Research and Improvement in the U.S. Department of Education — conducted a number of surveys concerning schools and school personnel. These surveys were designed to collect data on, among other issues, the demographics of the student population, the varying demand for teachers in all regions of the nation, the educational qualifications of school teachers and administrators, and the working conditions of teachers.

The surveys conducted during this time period included the Private School Surveys of 1983-84 and 1985-86, the Public School Survey of 1984-85, and the Teacher Demand and Shortage Survey of 1983-84. Data from these surveys have been used by Congress, state education departments, federal agencies, private school associations, and educational research organizations.

In 1985, NCES undertook a critical review and redesign of its elementary and secondary school data system, identifying gaps in content and inadequacies in design. As a result of this review, the Rand Corporation was contracted to redesign that part of the elementary/secondary system concerned with teacher demand and shortage, teacher and administrator characteristics, and general conditions in schools.

NCES, working with the Rand Corporation, integrated this effort into a unified set of surveys that facilitates comparison between public and private schools and allows linkages of teacher, school, school district, and administrator data. The integrated set of surveys is called the Schools and Staffing Survey (SASS). The 1987-88 SASS is also complemented by the 1988-89 Teacher Followup Survey (TFS), which collects information on the teacher's employment and teaching status, educational activities and future plans, and opinions on school climate and job perceptions.

NCES publishes a series of bulletins called E.D. Tabs. A number of these in recent years have been based on data derived from SASS and TFS. Several topical reports based on these data are also available. In July 1992, NCES released an extensive report, *Schools and Staffing in the United States: A Statistical Profile, 1987-88*, containing detailed analyses from the first SASS. See page 15 for information concerning the availability of these publications.

While much analysis of SASS and TFS data has already been performed, the usefulness of these data sets is far from exhausted. NCES would like to encourage educators, policy makers, and researchers to make further use of these data. On the pages that follow, readers will find descriptions of the contents of the four SASS surveys and the TFS, a discussion of the survey design, operational procedures used to collect these data, sample selection procedures, the imputation system for nonresponse, and other technical information.

SASS and TFS data tapes are available in two versions: the public-use data tapes; and, for NCES-approved researchers, the restricted-use data tapes. The public-use version places individually sensitive data such as salaries into general categories and reduces the level of geography available. Researchers who meet a set of qualifications described on page 12 may purchase restricted-use tapes containing the individual-level data that permit linkage between

all surveys for statistical research purposes.

A second SASS was conduc l during the 1990-91 school year. The data tapes from these surveys will be made available through NCES in the fall of 1992. At that time, it will be possible to compare data from the two time periods. (The next collection of data for the SASS will take place in 1993-94.) On page 16, researchers will find directions for obtaining more information about SASS and TFS and for gaining access to this valuable data base.

The mission of the National Center for Education Statistics is "to collect, and analyze, and disseminate statistics and other data related to education in the United States and in other nations" (Section 406(b) of the General Education Provisions Act, as amended [20 U.S.C. 1221e-1]). The National Forum on Education Statistics has adopted the credo: "Good data help to make good policies" (*A Guide to Improving the National Education Data System*, NCES, 1990). It is hoped that making data from SASS and TFS available to educators, policy makers, and researchers will contribute to the development of sound educational policies at all levels of government.

Because SASS is an integrated system of surveys, it is possible to link data derived from one survey with data from another. Therefore, responses given by teachers may be analyzed with information about their schools, school administrators, or school districts.

Research Objectives and Policy Issues

The analytical objectives for SASS address five major areas of concern. Educators and educational policy makers may use data from SASS to:

1. Profile the nation's elementary and secondary teaching force;
2. Improve estimates and projections of teacher demand by teaching field, sector, level, and geographic location;
3. Analyze teacher mobility and turnover;
4. Develop assessments of teacher quality and qualifications; and
5. Obtain more complete information on school policies, practices and programs, administrator characteristics, teacher characteristics, and workplace conditions.

Furthermore, the SASS sample has been designed to support the following types of estimates and comparisons:

- National and state estimates about public schools and teachers;
- Estimates for private schools and teachers at the national level and for major affiliation groupings; and
- National comparisons of elementary, secondary, and combined schools and of teachers in those schools.

With these objectives in place, SASS data can then be used to address, at least in part, policy issues like the following:

- What is the extent of turnover in the nation's teaching force?
- What are the sources of new teachers?
- Do the nation's teachers have adequate background to perform their function well?
- Are the nation's school administrators adequately prepared to carry out their functions as educational and managerial leaders?
- How are school programs and policies related to teacher turnover and attrition?
- How do geographic location, community size, and school size affect students' access to programs and services?
- What are the academic requirements for graduation in the United States, and how do they vary by state and type of school?

Survey Content

The SASS consists of four separate surveys administered simultaneously to linked samples of respondents. These surveys are the Teacher Demand and Shortage Survey, the School Administrator Survey, the School Survey, and the Teacher Survey. The Teacher Followup Survey (TFS), conducted a year after the SASS, follows up on information obtained through the Teacher Survey and provides additional information about job mobility within the teaching profession, as well as between teaching and other careers.

The survey content descriptions that follow apply to the 1987-88 SASS and the 1988-89 TFS. See page 10 for a discussion of how the questionnaires for the 1990-91 SASS were changed.

- Two versions of the questionnaire for the *Teacher Demand and Shortage Survey* were mailed out: one for public school districts and one for private schools. The questionnaires were divided into three sections. The first section, on enrollment and teaching positions, requested information about student enrollment, number of teachers, position vacancies, and new hires. The second section, on district (public) or school (private) policies, requested information on teacher salaries and incentives, hiring and retirement policies, and high school graduation requirements. The third section of the public school district questionnaire focused on other district information such as demographic characteristics of the student population and the teaching work force. The corresponding section of the private school questionnaire asked for additional information about the administrator of the school. The data derived from this survey permit an assessment of teacher demand and shortage, identify areas where a teacher shortage may exist, and provide an estimate of the number of teachers who hold certification in their field of assignment.
- *The School Administrator Survey* obtained information about the training, experience, professional background, and job activities of school principals/headmasters. Questions required both objective responses (e.g., number of years of teaching experience) and judgmental responses (e.g., ranking the seriousness of school problems). The data derived from this survey provide an insight into which teachers leave the classroom for the administrative field, which school problems administrators view as serious, and how administrators perceive their influence on school policies.
- Questionnaires for the *School Survey* were sent to public schools and private schools. The private school version of the questionnaire included items for identifying the religious or other affiliation of the school. Otherwise, the public and private versions of the questionnaire were identical. (Some detailed affiliation codes have been deleted from or collapsed on the public-use data tapes to protect the confidentiality of individual responses.) This survey obtained information about schools such as student characteristics, staffing patterns, student-teacher ratios, types of programs and services offered, length of school day and school year, graduation and college application rates, and teacher turnover rates. These data provide information about the teaching experience of the staff, the sources of newly hired teachers, and the destinations of teachers who left the school the previous year.
- Questionnaires for the *Teacher Survey* were sent to teachers in public and private schools. The two versions of the questionnaire were virtually identical. The survey collected data from teachers regarding their education and training, teaching assignment, teaching experience, certification, teaching workload, perceptions and attitudes about teaching, job mobility, and workplace conditions. This information permits analyses of how these factors affect movement into and out of the teaching profession.
- The questionnaires for the *Teacher Followup Survey* (TFS) were sent a year later to a sample of participants in the Teacher Survey. These questionnaires were of two types: a

version for participants who were still teaching, and another version for those who had left the teaching profession. In addition to questions about employment and teaching status and about possible sources of dissatisfaction with teaching as a profession, the questionnaires included questions about family size and income. Data derived from the TFS allow for comparative analyses of public and private school teacher job satisfaction and movement within and out of the teaching profession.

An example of linkage between surveys is that administrators and teachers from the same school were asked to rank school problems. SASS questionnaires are available on request so that researchers can determine which items specifically address their research objectives.

Design Features

The Schools and Staffing Survey was designed to collect information on teacher supply and demand, the composition of the administrator and teacher work force, and the status of teaching and schooling generally. The Teacher Survey was designed to obtain data on education and training, current assignment, job mobility, workplace conditions, and career choices of teachers, as well as their opinions about various policy issues such as student discipline and educational goals. SASS is a mail survey with telephone followup of late respondents and nonrespondents. For the 1987-88 SASS, a sample of 67,771 teachers (56,242 public and 11,529 private) from 12,830 schools (9,317 public and 3,513 private) was used to gather this information. The public schools in the sample were located in 5,592 local education agencies (LEAs).

The SASS sample is a stratified sample. Schools were first classified by sector: public/private. Public schools were stratified by the 50 states and District of Columbia and then by 3 grade levels (elementary/secondary/combined), resulting in 153 strata. Within each sample public school, an average teacher sample size of four, eight, and six teachers was selected from elementary, secondary, and combined schools, respectively.

The private schools were stratified by grade level and religious affiliation. Within each sample private school, an average teacher sample

Unweighted SASS Response Rates

	1987-88	1990-91 *
Teacher Shortage and Demand Survey		**Teacher Shortage and Demand Survey ****
• Public LEAs	89.4%	93.0%
• Private Schools	67.9%	
School Administrator Survey		**School Administrator Survey**
• Public	94.2%	96.9%
• Private	81.2%	91.0%
School Survey		**School Survey**
• Public	91.9%	95.0%
• Private	79.6%	84.8%
Teacher Survey		**Teacher Survey**
• Public	86.5%	91.5%
• Private	77.0%	83.0%

*Unweighted rates subject to slight change when final.
**1990-91 Private TDS incorporated into School form.

size of four, five, and three teachers was randomly selected from elementary, secondary, and combined schools, respectively.

The SASS was designed to support estimates at both the state and national level for the public sector, and at the national and affiliation level for the private sector. The affiliation groups were Catholic, Friends, Episcopal, Jewish, Lutheran, Seventh Day Adventist, Christian Schools International, American Association of Christian Schools, National Association of Private Schools for Exceptional Children, Association of Military Colleges and Schools of the U.S., American Montessori Society, National Association of Independent Schools, and Other. In observance of confidentiality protection measures, the detailed affiliation codes have been collapsed into three categories on the public-use data tapes. Those categories are Catholic, Other Religious, and Non-sectarian. In a similar fashion, state identifiers are not included on the public-use tapes for the public sector schools. Public and private sector comparisons are supported at the national level.

Operational Procedures

The 1987-88 SASS took place during the 1987-88 school year. The schools and school districts in the sample received introductory letters in the fall of 1987. During November-December 1987, sample schools provided lists of their teachers for use in selecting the teacher sample. The two mailouts of the survey questionnaires occurred between January and April of 1988. Telephone followup of nonrespondents took place during April – June 1988.

The first mailout of the questionnaires to the school districts, schools, administrators, and teachers took place from late January to late February 1988. Approximately 10 days after the first mailout of the Teacher Questionnaires, a letter was sent to each school coordinator. This letter identified the school's sample teachers and requested the coordinator to remind the sample teachers to complete and return their questionnaires.

Approximately 6 weeks after the initial mailout of the questionnaire, a second questionnaire was mailed to those sample cases that did not return the first questionnaire. During the time of this second mailout, each school coordinator was telephoned and asked to remind those teachers who had failed to return the first questionnaire to complete the second one and mail it back. For the second mailout to the nonrespondent teachers, the questionnaires were sent in a package to the school coordinator who distributed them to the appropriate teachers and encouraged them to complete and return the form.

One month after the second mailout of the questionnaires, the telephone followup began. Interviewers contacted the sample cases that failed to return a mailout questionnaire and attempted to complete an interview by telephone. All nonresponse cases from the mailout phase were included in the telephone followup except in the case of the Teacher Survey. Due to the large number of teacher nonrespondents and the necessity for completing the telephone followup prior to closing of schools for the summer, only a subsample of the teacher nonrespondents was included in the telephone followup for the 1987-88 Teacher Survey. In the 1990-91 survey, however, followup was carried out with all nonrespondents.

The 1987-88 SASS Teacher Survey had response rates of 86.5 percent and 77.0 percent for public and private school teachers, respectively. The 1988-89 Teacher Followup Survey had response rates of 97.3 percent (public) and 96.0 percent (private). The effective response rate for the TFS is the product of these two response rates: 84.1 percent (public) and 75.9 percent (private).

Sample Selection Procedures

The public school sample of 9,317 schools for the 1987-88 SASS was selected from the Quality of Education Data (QED) file of public schools. All public schools in the file were stratified first by state (50 states and the District of Columbia) and then by three grade levels (elementary, secondary,

and combined elementary and secondary). Within each stratum, the schools were sorted by urbanicity, percent student minority (four categories), ZIP code (first three digits), highest grade in school, and enrollment. For each stratum within each state, sample schools were selected by systematic (interval) sampling with probability proportional to the square root of the number of teachers within a school.

The private school sample of 3,513 schools was selected primarily from the QED file of private schools. Because this list of private schools did not fully cover all private schools in the country, two additional steps were taken to improve coverage. The first step was to update the QED file with current lists of schools from 17 private school associations. All private schools obtained in this way and the private schools on the QED list were stratified by state and within state by grade level and affiliation group. Sampling within each stratum was done as it was for public schools.

The second step taken to improve private school coverage was to select an area frame of schools contained in 75 Primary Sampling Units (PSUs) selected from the universe of 2,497 PSUs with the probability proportional to the square root of the PSU population. The PSUs, each of which consisted of a county or a group of counties, were stratified by Census geographic region (Northeast, Midwest, South, and West), Metropolitan Statistical Area (MSA) status (MSA or non-MSA), and private school enrollment (two groups). Within each of the 75 PSUs, a telephone search was conducted to find all in-scope private schools. Sources included yellow pages, religious institutions, local education agencies, chambers of commerce, local government offices, commercial milk companies, and commercial real estate offices. All schools not on the QED file or the lists from private school associations were eligible to be selected for the area sample. Most of these schools were selected with certainty, but when sampling was done, schools were sampled with probability proportional to the square root of the number of teachers (for schools that could be contacted) or a systematic equal probability procedure (for schools that could not be contacted).

The private school sample was designed to allow detailed comparisons among the following affiliations: Catholics, Friends, Episcopal, Jewish, Lutheran, Seventh Day Adventist, Christian Schools International, American Association of Christian Schools, Exceptional Children, Military Schools, Montessori, and the National Association of Independent Schools. At least 100 schools were selected from each affiliation, or all schools in the affiliation if there were fewer than 100 schools.

All local education agencies (LEAs) that had at least one school selected for the school sample were included in the LEA sample for the Teacher Demand and Shortage Survey. In addition, a sample of LEAs that did not contain eligible schools was selected directly, since these LEAs would otherwise have no chance of selection. Those known to hire teachers were selected with probability proportional to the square root of teachers. Approximately one-tenth of these were sampled. Those in an unknown status with regard to hiring teachers were selected with equal probability at a 1 in 20 sampling rate. A total sample of 70 such LEAs was selected in this manner. Only 8 of these 70 were actually in scope (that is, reported hiring teachers). The total LEA sample was 5,592.

SASS (1987-88) and TFS (1988-89) sample sizes

	Public	Private	Total
LEAs	5,592	—	5,592
Schools	9,317	3,513	12,830
SASS Teachers	56,242	11,529	67,771

	Stayers and Movers	Leavers	Total
TFS Teachers	4,185	2,987	7,172

All 56,242 public and 11,529 private school teachers in the teacher samples were selected from the sample public and private schools. The specified average teacher sample size was four, eight, and six teachers for public elementary, secondary, and combined schools, respectively and four, five, and three teachers for private elementary, secondary, and combined schools, respectively.

A list that included all full- and part-time teachers, itinerant teachers, and long-term substitutes was obtained from each sample school. Within each school, teachers were stratified by experience into two groups: new teachers (in their first, second, or third year of teaching) and all others. New teachers in private schools were oversampled by 60 percent; oversampling in public schools was not necessary. Within each new and experienced teacher stratum, elementary teachers were sorted into general elementary, special education, and "other" categories; and secondary teachers were sorted into mathematics, science, English, social science, vocational education, and "other" categories. Within each school and teacher stratum, teachers were selected systematically with equal probability.

In order to obtain more reliable estimates of bilingual teachers and teachers of English as a second language (ESL), both the public and private school teacher samples included a bilingual-ESL supplement that included teachers who used a native language other than English to instruct students with limited-English proficiency and teachers who provided intensive instruction in English to students with limited-English proficiency. The bilingual-ESL supplement of 2,227 teachers was selected independently from the basic sample. It was designed to provide estimates for California, Texas, Florida, Illinois, New York, and for all other states combined. The sample size within each school was chosen to be proportional to the weighted number of bilingual-ESL teachers in the school. Within a school containing bilingual-ESL teachers, the teachers were selected systematically with equal probability.

Teacher Followup Survey

To select a sample for the 1988-89 TFS, the 1988-89 occupational status of teachers responding to the 1987-88 SASS was determined by contacting their schools to determine whether they were still at the school, had left to teach elsewhere, or had left for a non-teaching job. All those who had left teaching (leavers) were included in the sample. All continuing teachers were classified as stayers (those who remained in the same schools) and movers (those who had moved to other schools). All teachers in public and private schools were again stratified into new and experienced strata and secondary and elementary strata. Continuing teachers were also sorted by Census region, urbanicity, teacher subject, and school enrollment within each public stratum. Within each private stratum, continuing teachers were sorted by affiliation, urbanicity, teacher subject, and school enrollment. After the teachers were sorted, teachers were selected within each stratum using a probability proportional to size procedure. The measure of size was the SASS basic weight (inverse of the probability of selecting a teacher in the SASS teacher sample). This sample allocation method yielded a total sample size of 7,172 teachers, of whom 2,987 were leavers and 4,185 were stayers or movers.

Edits and Imputation

During the edit process for the 1987-88 SASS, clerks performed a general clerical edit of the questionnaires for all the SASS surveys. During the edit for the Teacher Survey, the clerks identified questionnaires that had one or more "must" items unanswered, and telephoned those teachers and attempted to complete the missing items.

After completing the missing items for the Teacher Questionnaires, the clerks assigned codes for items with a written response such as industry/occupation.

After completion of the clerical edit and data keying, a computer pre-edit was conducted for

each SASS file. The pre-edit consisted of a range check of priority items and consistency checks between selected items.

A list of reject cases was generated for each file, and clerks reviewed the questionnaires to verify the data keying accuracy and attempted to resolve the reject items. After this review, if any unresolved rejected items remained that were categorized as "priority" items, the clerks attempted to telephone the respondent and resolve the items.

After the pre-edit reject corrections were made, each SASS file passed through a computer edit. This included a range check of all items in which out-of-range items were blanked, a consistency edit that checked for completeness and consistency, and a blanking edit that blanked items that were inappropriately answered.

Nonresponses for most items were imputed on the School and Teacher Demand and Shortage files. The imputation method used was a sequential hot deck procedure that matched the nonrespondent district or school with the most similar responent in the same stratum. "Most similar" was determined on the basis of metropolitan status, percent minority, and enrollment. On the School file for public schools, all missing items were imputed. On the School file for private schools, two items concerning place of operation and staffing patterns were not imputed.

No imputation was done for the Teacher, the Administrator, and the Teacher Followup Survey files. Item nonresponse was treated as missing data in the computation of estimates for tables that include data from either of these files. Not imputing for item nonresponse leads to a bias in the estimates. The nature of this bias is unknown. Underestimates or overestimates may be due to missing schools or item response.

When estimating totals or counts, SASS teacher or administrator estimates will be low. For averages and ratios, the direction of the bias is unknown. In the 1990-91 SASS, imputation for item nonresponse was completed for all SASS files.

Sample Unit Weighting

For the 1987-88 SASS, weighting of the sample units was carried out to produce national and state estimates for public schools, teachers, administrators, and LEAs. The private sector was weighted to produce national and affiliation group estimates. On the public-use data tapes, the affiliation groups for private schools were collapsed into three categories: Catholic, Other Religious, and Nonsectarian. The basic weights were the inverse of the probability of selection and were adjusted for nonresponse.

LEAs. LEAs were assigned basic weights equal to the inverse of one minus the product of the probabilities of not being selected from each of the three school strata. The LEA basic weight was adjusted by a sampling adjustment factor, a noninterview factor, and a ratio adjustment factor which adjusts the estimated number of LEAs using all selected LEAs to the number of LEAs on the QED universe file. The sampling adjustment factor adjusts for unusual circumstances affecting an LEA's probability of selection, such as a merger with another LEA or the splitting up of an LEA.

Schools and Administrators. Schools were assigned a basic weight at the time of sampling equal to the stratum's sampling interval divided by the school's measure of size. Schools selected from the area frame were assigned a basic weight equal to the inverse of the PSU probability of selection multiplied by the school's basic weight. Administrators were assigned the same basic weight as their schools.

A sampling adjustment factor was applied to certain schools and administrators to account for duplicate records, merged schools, or any other circumstance that would affect the school's true probability of selection. Noninterview adjustment factors were calculated to make up for schools or administrators that were eligible for the survey but were not interviewed, usually because they refused to

respond. Ratio adjustment factors were applied to adjust the sample weights to the original QED universe.

Teachers. The teacher basic weight is equal to the within-school sampling interval multiplied by the school's basic weight. Teacher records could receive either a basic weight from the basic sample or a basic weight from the bilingual supplement or both. These two basic weights were combined by applying a bilingual oversampling adjustment factor to the bilingual teacher weight to account for their two chances of selection. Teacher basic weights were also adjusted to account for schools that refused to participate in the teacher selection process, and for teachers that were not selected for telephone followup and for whom questionnaires were not returned by mail. In addition, teacher and school noninterview adjustment factors and the QED school ratio adjustment factor were also applied to produce the final weight.

Changes in the 1990-91 SASS

Several changes in survey procedures, design, and content were made between the completion of the first SASS and the implementation of the second SASS.

Procedural Changes

In 1987-88, the Teacher Demand and Shortage Questionnaires went to both public school districts and private schools. In 1990-91, only public school districts received the TDS Questionnaires. Instead, private schools received questions on aggregate demand for both new and continuing teachers in their 1990-91 School Questionnaires.

The 1990-91 SASS included an Indian School Questionnaire sent to schools not in the public system that are operated by the Bureau of Indian Affairs (BIA) or by Indian tribes under contract with the BIA.

In general, the time frame for contacting sample schools and school districts and distributing questionnaires was a month earlier in the 1990-91 SASS (i.e., the first mailout for the 1987-88 SASS was late January; the first mailout for the 1990-91 SASS was mid-December).

Design Changes

After the first SASS collection, a statistical team was set up to evaluate the 1987-88 sample design and make changes where appropriate. The following paragraphs summarize the changes made to the 1990-91 sample design.

- Instead of using the Quality of Education Data (QED) as a public school frame, NCES's Common Core of Data (CCD) school file was used. This was done to eliminate inconsistencies that resulted from differences between the QED and CCD definitions of a school. To make SASS school estimates consistent with CCD school estimates, the SASS frame was changed.

  To measure the impact of the school definition difference on SASS school estimates, the 1990-91 survey was designed to produce estimates using either the QED or CCD definition. The default definition was the CCD definition.

- To improve the precision of the 1990-91 private sector estimates, the number of area frame PSUs was increased from 75 to 123.

- To increase the level of publishable detail for the public sector, the school sample was reallocated to produce state/elementary and state/secondary estimates. In the 1987-88 survey, public sector estimates were only designed to be publishable at the state level.

  For the private sector, the sample was reallocated to publish five additional associations.

- To improve the precision of SASS change estimates from 1987-88 to 1990-91, 30 percent of the 1990-91 public school sample were also in sample for 1987-88. For the private school sample, associations with a high response rate also had a 30 percent overlap. Associations

with lower response rates had smaller percentages of school overlap. Associations with poor response rates had the school overlap minimized.

- In the 1987-88 survey, bilingual and new teachers were oversampled. In 1990-91, American Indian/Alaska Natives and Asian/Pacific Islanders were additionally oversampled.

  In the 1990-91 survey, schools with 25 percent or more American Indian enrollment were oversampled. Also, a large sample of schools run by or affiliated with the Bureau of Indian Affairs was included.

- In the 1987-88 survey, missing data (item nonresponse) from the Administrator and Teacher files were not imputed. In 1990-91, they were imputed. In both surveys, missing data from the TDS and School files were imputed.

- To make the SASS estimated teacher counts from the School and Teacher files more consistent, the Teacher file weights were adjusted so that they equaled the School file headcount estimate.

Content Changes

The item content described on pages 3-4 constitutes the continuing core of each survey over repeated administrations. In the 1990-91 SASS, the following items sets were added to each survey.

- The Teacher Demand and Shortage Survey was expanded to include data on demand and shortage of librarians and pension portability.
- The School Survey was expanded to include data on types of prekindergarten and kindergarten programs offered and degree of difficulty of filling teacher vacancies by teaching field.
- The Teacher Survey was expanded to include more data on professional activities.
- The Administrator Survey remained essentially unchanged.

Accuracy of Estimates for 1987-88

Statistical estimates for the total U.S. population obtained from SASS data are subject to sampling variability. In addition, they are subject to nonsampling errors, which can arise because of nonresponse, errors in reporting, or errors in data collection. These types of errors can bias the estimates and are not easy to measure. They can occur because respondents interpret questions differently, remember things incorrectly, or misrecord their responses. Nonsampling errors can also be due to incorrect editing, coding, preparing, or entering of the data or to differences related to the time the survey was conducted.

The precision with which one can use survey results to make inferences to a population depends upon the magnitude of both sampling and nonsampling errors. In large sample surveys, such as the SASS, sampling errors are generally minimal, except when estimates are made for relatively small subpopulations (bilingual teachers, for example).

The 1987-88 SASS school and LEA estimates for some states were lower than the estimates produced by the NCES Public Elementary/Secondary School Universe Survey of the Common Core of Data (CCD). This occurred because some small LEAs (with an average of 10.2 students) were not in the QED file and because the QED definition of school differs somewhat from the CCD definition. QED defines a school as a physical location, while CCD defines it as an administrative unit. Because of the missing schools, the SASS counts of public schools and administrators are underestimated. The effect of the missing schools on the nature of the bias for averages is unknown. On a national basis, there were 6 percent more CCD schools than SASS schools. For private schools, the SASS estimate was less than the sampling frame because some schools were out of scope, no longer in existence, or duplicated in the frame.

In some states, FTE (full-time equivalent) teacher counts were not the same on the Teacher and

School files. In the average state, there were 5 percent fewer teachers on the teacher frame than the number of teachers reported by the schools, causing SASS estimates from the Teacher file to be underestimates if all teachers were not included in the frame. In addition, schools appeared to have problems providing FTE counts. On average, by state, 19 percent of the schools reported the same number of teachers as FTEs when some part-time teachers were reported. Thus, the SASS FTE counts from the school file are likely to be overestimates.

The American Federation of Teachers' *Survey and Analysis of Salary Trends, 1989*, reported an average salary of $28,071 for public school teachers in 1987-88, and the National Education Association's *Rankings of the States, 1989*, reported an average salary of $28,029. These averages are slightly higher than the $26,231 estimated using SASS teacher data.

Confidentiality Protection Measures

The 1987-88 Schools and Staffing Survey data are released in accordance with the provisions of the General Education Provisions Act (GEPA) [20-USC 1221e-1] and the Carl D. Perkins Vocational Education Act.

Under Public Law 100-297, the National Center for Education Statistics is responsible for protecting the confidentiality of individual respondents and releases data tapes for statistical purposes only. Record matching or deductive disclosure by any user is prohibited.

To ensure that the confidentiality provisions contained in PL 100-297 have been fully implemented, procedures for disclosure avoidance were used in preparing public-use data tapes for release. Every effort has been made to provide the maximum research information that is consistent with reasonable confidentiality protections.

The data tapes are made available in an abridged form to researchers and the general public. Identification elements on these public-use tapes are coded or deleted to protect the confidentiality of survey participants. Researchers who meet a set of qualifications described on page 12 may purc[illegible]e restricted-use tapes containing identificat[illegible] codes that facilitate linkage between surveys for statistical research purposes.

Public-Use Data Tapes

Except for the Teacher Demand and Shortage public-use data tape, all state identifiers and stratum codes have been removed to prevent disclosure of identities of individual schools, administrators, and teachers. Each district's FIPS state code and Census region designation have been left on the Teacher Demand and Shortage file. However, this file cannot be linked with the public School, Administrator, and Teacher files. This linkage has been removed in order to protect the identities of individual teachers and administrators. In addition, the detailed affiliation codes for private schools have been collapsed into three categories: Catholic, Other Religious, and Nonsectarian.

On the School, Administrator, and Teacher files, continuous variables that would permit disclosure of school, teacher, or administrator identity have been coded into categories. On the School file, for example, enrollment, urbanicity, number of teachers, and percent minority enrollment were coded. On the Administrator and Teacher files, income and age were coded.

Some categorical variables that were a disclosure problem have been recoded into new categories. The new categories are defined for the appropriate source codes on the tape record layouts. A few items have been deleted from the files altogether because of disclosure problems. These include the respondent's college or university and state identifier on the Administrator and Teacher files.

Since the data on the Teacher Demand and Shortage file for public schools cannot be linked to data on the public School, Administrator, or Teacher files, continuous variables on this file have not been categorized. However, district names and addresses have been deleted from the file to protect the identity of individual districts.

Restricted-Use Data Tapes

As discussed in the previous section, some elements on the public-use tapes are coded or deleted to protect the confidentiality of survey participants. Because these identifiers have been removed, the public-use data tapes do not allow for linkage of files from one survey with files from another survey. Researchers who can demonstrate a need for more detailed information may request access to restricted-use tapes containing identification codes that facilitate linkage between surveys for statistical research purposes.

Researchers requesting access to the restricted-use tapes must obtain a license to use these 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 which necessitates accessing the NCES survey.
- The name and title of the most senior official having the authority to bind the organization to the provisions of the license agreement.
- The name and title of the principal project officer who will oversee the daily operations.
- The number, name(s), and title(s) of professional and technical staff who will be accessing the survey data base.
- The estimated loan period necessary for accessing the NCES survey data base.
- The desired computer media format and conversion (e.g., 9-track tape, CD ROM and ASCII, EBCDIC).

Return all of the above information to:

Roger A. Herriot
Associate Commissioner for Statistical
Standards and Methodology
NCES/OERI
U.S. Department of Education
555 New Jersey Avenue, NW
Washington, DC 20208

After reviewing the information, the Associate Commissioner for Statistical Standards and Methodology will inform the requester whether a license to use the restricted data is approved.

Researchers and/or institutions that violate the agreement are subject to a fine of not more than $250,000 (under 18 U.S.C. 3559 and 3571) or imprisonment for not more than 5 years, or both.

SASS Research and Evaluation

In order to improve methods and procedures for future data collection cycles of SASS, the Schools and Staffing Survey staff is working with the Bureau of the Census staff and with researchers in the academic community to develop a program of survey methods research and data evaluation.

One major focus of this research and evaluation program is the sampling frames used in the SASS and their coverage characteristics. For example, one project is aimed at evaluating and improving the completeness of the private school universe. Other projects will involve research on

- the difficulties in using an administrative record statistical system (i.e., the Common Core of Data) for sampling purposes;
- sampling issues associated with student and parent samples in a school-based survey; and
- the completeness of the teacher listing operation that provides the sample frame for the SASS teacher sample.

While developing more knowledge on the completeness of the SASS sampling frames is important, survey staff are also planning to expand coverage of the SASS to include both institutions that offer prekindergarten programs as well as schools in the outlying areas.

In order to improve questionnaire concepts and wording, the program staff has initiated a research project of detailed, probing interviews and reinterviews with survey respondents. Other areas of research being considered include a review of the efficiency and timeliness of selected survey operations such as the pre-edit and reject

phase of the data collection, as well as a project that would characterize classes of nonrespondents in the SASS.

Research projects under development also include testing the feasibility of using computer-assisted data collection systems at the school and district levels and exploring ways to improve the timeliness and efficiency of sampling operations.

The research program will also focus on issues of measurement. This effort will be aimed at developing methods to gather information on the quality of the school and the quality of the educational experience in schools.

Finally, the research and evaluation program will encourage substantive analysis and data evaluation through a number of approaches, including collaboration with the research and academic communities. The program will also develop a SASS Quality Profile, a review of what is known about the sources and magnitude of errors in SASS. Some results from this research program will be presented at the 1992 meeting of the American Statistical Association (ASA). These research papers will be available in the ASA's *1992 Proceedings of the Section on Survey Research Methods*.

Examples of the Use of SASS Data

Data examples taken from NCES publication
Schools and Staffing in the United States: A Statistical Profile, 1987-88.

Urban public schools were much more likely than public schools in other community types, or private schools in any community type, to have a minority enrollment of 20 percent or more. Whereas 74 percent of urban public schools had a minority enrollment of 20 percent or more, only 35 percent of suburban and 28 percent of rural or small city public schools had such an enrollment. In the private sector, 44 percent of urban schools had a minority enrollment of 20 percent or more, compared with only 23 percent of suburban schools and 12 percent of rural or small city schools.

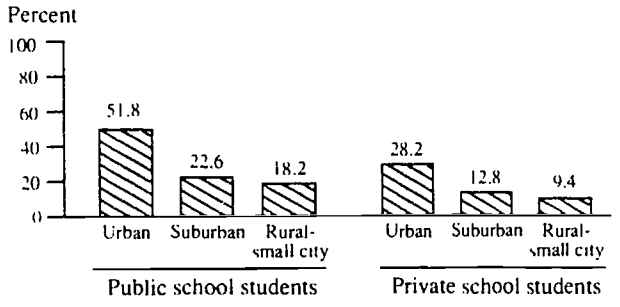


Figure 1: Percentage of public and private minority school students, by community type

In 1987-88, the teaching force was overwhelmingly female (71 percent). In both public and private sectors across community types, male teachers were more likely to be teaching in secondary rather than in elementary schools. The majority of all school principals were male (69 percent), but their proportions in public and private schools differed significantly. Seventy-five percent of public school principals were male, versus only 48 percent of private school principals.

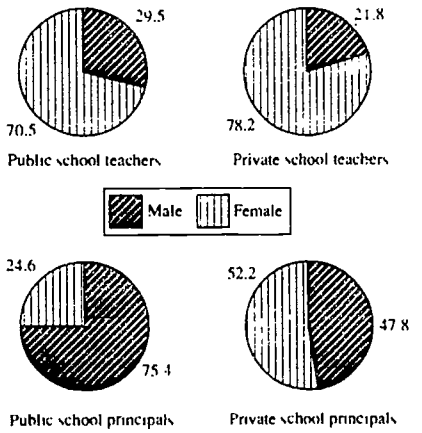


Figure 2: Percentage of public and private school teachers and principals, by sex

In 1987-88, the average base salary among all full-time teachers was $25,205; the average public-school base salary was $26,231; and the average private-school base salary was $16,562.

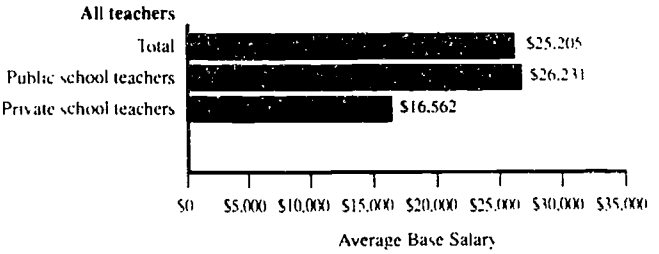
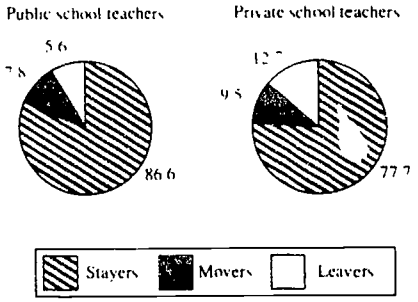


Figure 3: Average base salary for full-time public and private elementary and secondary school teachers: 1987-88

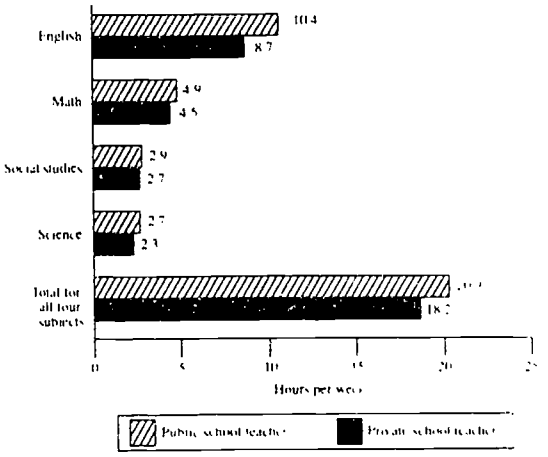


In 1988-89, 94 percent of all 1987-88 teachers remained in teaching, and 6 percent had left the profession. Private school teachers were more likely to leave the profession than were public school teachers: 13 percent of private school teachers left between 1987-88 and 1988-89, compared to 6 percent of public school teachers.

Figure 4: Percentage of 1987-88 public and private school teachers who stayed in their 1987-88 schools (stayers), moved to different schools (movers), or left teaching (leavers), by 1988-89: 1987-88 and 1988-89

Public school teachers in self-contained classrooms taught more total hours per week in basic subject areas — English, mathematics, social studies, and the sciences — on average, than their private school counterparts (20.9 compared with 18.2).

Figure 5: Average hours per week that public and private elementary school teachers in self-contained classrooms spent teaching certain subjects: 1987-88



There were considerable differences in average class size in public and private schools: the average class size for public school teachers in departmentalized subjects was 23.8 students, while for private school teachers, it was 20.7 (teachers in departments are mostly at the secondary level). For teachers in self-contained classrooms, the average class size in public schools was 26.0, while for teachers in private schools, it was 22.6 (most self-contained classrooms are in elementary schools).

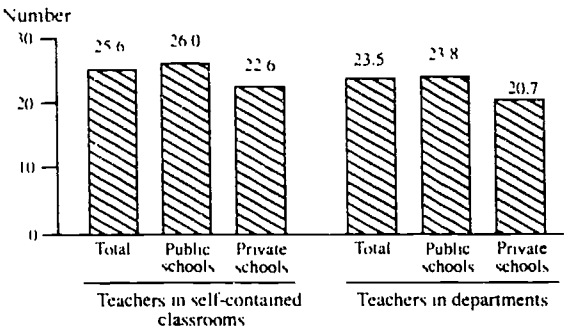


Figure 6: Average class size for teachers in self-contained classrooms and teachers in departments in all schools and public and private schools. 1987-88

SASS Publications

The data provided by the SASS and the Teacher Followup Survey have been used as the basis for several published studies and analyses. In July 1992, the National Center for Education Statistics released an extensive report, *Schools and Staffing in the United States: A Statistical Profile, 1987-88* (NCES 92-120), containing detailed analyses of the first SASS. This report — written by Susan P. Choy, Elliott A. Medrich, Robin R. Henke, and Sharon A. Bobbitt — covers a wide range of topics related to schools, including their size and structure, the programs and services offered, and characteristics of students served. The report also profiles teachers and principals in some detail, with descriptions of their background characteristics, qualifications, working conditions, compensation, and attitudes. The report also examines various aspects of supply, demand, and shortage of teachers.

Other NCES publications based on the 1987-88 SASS and the 1988-89 Teacher Followup Survey data include the following:

- Selected Characteristics of Public and Private School Administrators: 1987-88 (E.D. Tab, NCES 90-085)
- Characteristics of Private Schools: 1987-88 (E.D. Tab, NCES 90-080)
- Comparison of Public and Private Schools: 1987-88 (E.D. Tab, NCES 90-075)
- Selected Characteristics of Public and Private School Teachers: 1987-88 (E.D. Tab, NCES 90-087)
- Aspects of Teacher Supply and Demand in Public School Districts and Private Schools: 1987-88(E.D. Tab, NCES 91-133)
- Characteristics of Stayers, Movers, and Leavers: Results from the Teacher Followup Survey, 1988-89 (E.D. Tab, NCES 91-128)
- Detailed Characteristics of Private Schools and Staff: 1987-88 (E.D. Tab, NCES 92-079)
- 1988 Schools and Staffing Survey: Sample Design and Estimation (Technical Report, NCES 91-127)
- Diversity of Private Schools (Technical Report, NCES 92-082)
- A Comparison of Vocational and Non-Vocational Public School Teachers of Grades 9 to 12 (Statistical Analysis Report, NCES 92-666)

Copies of these publications can be obtained by calling 1-800-424-1616.

SASS Public-Use Data Tapes

The 1987-88 SASS and 1988-89 Teacher Followup data provide a rich source of information on schools and their staff. While numerous studies using these data have already been conducted, the usefulness of these data is far from exhausted. It is hoped that interested researchers, educators, and policy makers will take advantage of this valuable resource to perform further analyses.

The second SASS was administered during the 1990-91 school year, and the results from these surveys will be available in the fall of 1992. At that time, it will be possible to make comparisons between 1987-88 and 1990-91.

The following data tapes are available:

- Public and Private School Survey (1987-88)
- Public and Private School Administrator Survey (1987-88)
- Public and Private School Teacher Survey (1987-88)
- Public and Private School Teacher Demand and Shortage Survey (1987-88)
- Public and Private School Teacher Followup Survey (1988-89)

Public and private school data sets are available for each survey at a cost of $175 for the first data set and $75 for each additional set. All five combined (public and private school) data sets may be purchased for $475.

For more information about the purchase of data tapes, write to:

U.S. Department of Education
OERI/EIRD/Data Systems Branch
555 New Jersey Avenue, NW
Rm. 214
Washington, DC 20208-5725

(202) 219-1522 or 219-1847

The SASS and TFS data are also available through the Inter-university Consortium for Political and Social Research (ICPSR). This international organization—housed within the Institute for Social Research at the University of Michigan, Ann Arbor—maintains a Data Archive and distributes machine-readable data on social phenomena occurring in over 130 countries.

ICPSR makes its resources available through CDNet. Individuals or organizations who subscribe to this service may use it to order SASS and TFS data directly from ICPSR.

Researchers ordering SASS or TFS data from ICPSR outside of CDNet should send an ICPSR Data Request form or a letter indicating the desired data sets to:

Member Services
ICPSR
Institute for Social Research
P.O. Box 1248
Ann Arbor, MI 48106

(313) 763-5010