

CHAPTER IV. PERSONNEL

The peak employment of personnel in each part of the Decennial Operations Division, and the month in which it was reached, is shown in appendix G, table 1. Table 2 in appendix G shows monthly employment during the census period for the Decennial Operations Division's Washington office and the five decentralized installations.

RECRUITMENT AND TRAINING¹

Washington

When the Decennial Operations Division was established in July 1958, it began operations with a nucleus of four key officials--a division chief and three branch chiefs. The organizational structure developed for the Washington office provided for the following staff:

1. Methods, Procedures, and Quality Control Branch
 - a. Procedures Section: A staff of about 10 statisticians and statistical officers responsible for developing procedures for the Division's processing and compilation activities, exclusive of computer programming
 - b. Methods Section: A staff of about 8 management analysts engaged in experimentation relative to alternative processing methods and the features and potentialities of various types of equipment
 - c. Quality Control Section: A staff of about 5 mathematical statisticians under the administrative direction of the Decennial Operations Division and under the technical direction of the Statistical Methods Division
2. Administrative Management Branch: Staffed by 4 specialists in the areas of budget, personnel, production control, and progress reporting
3. Computer Programming Branch
 - a. Programming Section: A peak staff of about 45 computer programmers engaged in developing the programs required to process the 1960 censuses on the electronic computers
 - b. Processing Control and Reconciliation Section: A peak staff of about 75 clerical and supervisory personnel engaged in review of the computer diaries, computer monitoring, and maintenance of control and reporting systems
4. Special Programs Branch: A technical staff of 4 persons directing a program of special projects (see section on "Supplemental Projects" in chapter V).

Building up this staff was a long, slow process and included transfers from other divisions in the Census Bureau and from other Government agencies, as well as

outside recruitment. It was supplemented by an intensive program of in-service training.

Throughout the processing period, there existed an acute shortage of computer programmers and especially of experienced senior programmers. In recognition of this, the Bureau's Electronic Systems Division developed and conducted, periodically, a classroom training course in the fundamentals of computer programming. Tests were administered to lower-grade Bureau personnel to identify persons with aptitude for programming work. Such persons, as well as recent college graduates recruited from Civil Service registers, were assigned to the 6-week training course and, upon successful completion of the course, entered on duty as apprentice programmers.

In general, it required a period of about one year's on-the-job training for inexperienced persons to become productive programmers. During this period, they worked under the very close supervision of experienced programmers.

Occasionally, after the completion of training, programmers were lost to higher salaried positions in private industry, since there was an acute shortage of programmers in the country. To remedy this situation, the Bureau in May 1960 set up a special pay plan for programmers, which proved to be effective in reducing loss of programmers and also placed the Bureau in a better competitive position for recruitment.

In addition to the programming personnel in Decennial Operations Division, as many as 16 programmers in Electronic Systems Division assisted substantially in the development of the computer programs.

Persons hired for other Washington office positions received on-the-job training as required in view of their particular experience and general background.

Jeffersonville

The following key positions in the Jeffersonville Decennial Operations Branch were filled by assigning experienced Census Bureau personnel from Washington:

Chief, Jeffersonville Decennial Operations Branch
Chief, Methods, Procedures, and Quality Control Section
Assistant Chief, Methods, Procedures, and Quality Control Section
Chief, Result Work Section
Chief, General Coding Unit
Chief, Industry and Occupation Coding Unit
Chief, Day Shift, Microfilming Unit

Professional Assistant positions in the coding operations were filled by temporary assignment of subject specialists from Washington.

Except for this small force of experienced technical personnel from the Washington office, recruitment for the Jeffersonville operations was from local sources and was carried out in accordance with the Civil Service Commission's regular competitive requirements. The Bureau conducted a special examination to obtain suitable clerical applicants. All of the personnel were hired on a temporary basis.

¹Recruitment and training for the Puerto Rico Office is discussed in chapter VI, "Processing the Data for Puerto Rico."

The fact that there was a depressed labor market in the Jeffersonville-Louisville area, and that virtually no other organization was tapping the supply of occasional workers, mostly housewives, resulted in the availability of an abundant supply of temporary workers--which was a consideration in selecting the location. Competition was keen for every position, and a work force of unusually high quality was recruited.

The processing of the 1960 census data in Jeffersonville involved the training of approximately 1,500 employees for many different assignments. Fortunately, processing of the 1958 economic censuses in Jeffersonville had required 1,000 employees, and many of these people became available as work on the 1960 censuses started. Many of the important positions of the population and housing census operations were filled by people who had demonstrated superior ability in work on the economic censuses.

In May 1959, a special census of two counties in North Carolina was conducted for the purpose of testing the proposed operational procedures for the 1960 censuses. The enumerators' work was shipped to Jeffersonville and a small group of clerks was hired to receive and process the schedules. Later, in January 1960, another test, using these same schedules plus some additional simulated schedule returns, was made. Both these tests provided excellent training both for the Washington personnel involved and for the cadre of Jeffersonville personnel who had an opportunity to participate in each operation.

However, most of the personnel hired for the processing were new and had not had the opportunity to learn any of the operations in advance. Since training costs are high and since experience shows that people constantly improve as they stay on one job, a serious attempt was made to train people for only one job. Insofar as practicable, after a clerk was trained he remained on that assignment until the work was completed. In the coding operations, for example, a change from work on the schedules of one State to those of another often seriously impaired the individual's production until he learned the codes most frequently used for the new State.

For practically every operation performed in Jeffersonville, and for every major operation without exception, there were written instructions. In nearly all cases, the Washington personnel responsible for developing the written instructions came to Jeffersonville to train the first people assigned to the work. This permitted the writer of the instructions to evaluate personally the quality of his instructions and to improve them.

After this first training session, the supervisor in charge of the operation usually trained any additional people. There were, however, three major exceptions to this policy, as described below.

For the microfilming operation, training was conducted by a specialist from Washington. The uniformity of operation necessary for this work required that uniform training be given to the microfilm camera operators.

The initial training of camera operators required about 1 day of classroom time. For the next 2 or 3 days the trainee assisted and watched a trained operator perform the work. Then the trainee was assigned to a camera and started practice work. As soon as his practice work was acceptable, he was assigned to regular production work. The entire training period usually covered from 7 to 10 days.

For training in general editing and coding, the records of all employees were examined, and a large number of people were found to have had teaching experience. Those best qualified who expressed a desire to conduct training were assigned to this work.

Two classes of approximately 25 people each were trained each week and a total of 17 classes were conducted. Each class required about 4 1/2 days to complete the training course. It was found necessary to have two trainers for each class. One trainer conducted the class for 1 hour while the other prepared his materials for the next period, corrected tests, and maintained records.

All training instructions and materials for general editing and coding had been prepared by the Washington personnel, and the trainer followed the designated program. At the end of the training, a very comprehensive test was given to the trainees. The test used specially prepared schedules which included all the major kinds of problems that a coder could reasonably be expected to encounter over a long period of time. After each new coder took the first examination, the adequacy of his training could be evaluated. After a complete review of all the problems and of misunderstanding of instructions given in classroom discussions, the coder received additional intensive instruction. Then another, even more difficult, test was given. Clerks who made large numbers of errors in this last test were given special personal tutoring by the trainer. Those clerks who failed to complete the training satisfactorily were given a warning letter, allowing them 2 weeks to demonstrate their coding ability, and were assigned to a coding section. Their new supervisor, being aware of their probationary period, made every effort to assist these coders during the 2-week period.

The training of industry and occupation coders also required two classes of approximately 25 people each week and a total of 22 classes were conducted. Washington personnel conducted these classes, since the concepts and rules for this type of coding are more complex than those for general coding and experience is an important factor. Industry and occupation training included many short tests to measure the progress of the trainees and to keep them alert to the mass of information and instructions being directed to them. Also, several films obtained from large industrial firms provided excellent material for illustrating the almost limitless number of occupations. Industry and occupation training took a full week to complete. Each class was then assigned to a coding supervisor who provided "on-the-job" assistance to the new coders, supplementing and interpreting instructions. During this initial period, the trainees were required to list as problem referrals all occupations not specifically listed in the coding manual, but later when they had gained experience they were permitted to code the less difficult occupations and industries which were not in the manual but which could be interpreted as being identical with industries and occupations that were in the manual (even though somewhat differently described).

INCENTIVE AWARDS

Cash awards were used extensively to reward superior production on measured operations in Jeffersonville. Upon completion of stage-I microfilming work, 37 employees who had been engaged in the microfilming, breaker sheet preparation, and breaker sheet verification shared a

total of \$485 in recognition of their outstanding productivity. Individual awards ranged from \$10 to \$20. The total savings accrued through these employees' superior work was estimated to be \$7,600. Early in 1961, over \$6,000 in production awards was given to 271 employees for their superior performance on general and on industry and occupation coding during the period from July to December 1960. These individual awards ranged from \$10 to \$75, and the total savings derived from these employees' outstanding productivity was estimated at over \$105,000. In June 1961, \$7,300 in production awards was given to 359 employees in the general coding and the industry and occupation coding operations, microfilming, and several other smaller operations, for their superior performance during the period from January through March 1961. The awards ranged from \$10 to \$60, and total savings derived from the high productivity of these employees was estimated at \$127,487.

The employee was eligible for a cash award if he had been engaged in work under the formal production standards program and had maintained an average performance rate of at least 25 percent better than the average expected performance during the period measured, had maintained a satisfactory level of quality of work, had been satisfactory in attendance and cooperativeness, and if the employee's extra productivity had saved the Bureau at least \$100.

Consideration was given to granting awards for superior performance to administrative and professional personnel, supervisors, record clerks, and other employees whose work was not under the production standards program, but the absence of objective measures for evaluating and selecting such persons and the difficulties encountered in preparing acceptable justifications made it impracticable to implement this phase of the program. (For this reason, cash awards were not recommended for any employees in the Washington office.) However, one Jeffersonville employee did receive a \$250 cash award in September 1960 for her excellent leadership and supervisory work, as one of five such cash awards granted after a Bureau-wide effort to identify particularly outstanding supervisors.

Awards were not recommended for employees in Puerto Rico, primarily because the comparatively small-scale, short-term nature of the various operations limited the opportunities for significant individual savings. Also, a formal production standards program was not used in Puerto Rico.

The Jeffersonville employees participated actively in the Bureau employee suggestion program. During 1960 a total of 165 suggestions were submitted, and 22 of these were approved, with awards totaling \$245.