

METHODOLOGY AND TECHNICAL NOTES

Survey and Sample

The survey, *Vocational Programs in Secondary Schools* was conducted through the National Center for Education Statistics' (NCES) Fast Response Survey System (FRSS). To select a nationally representative sample of public secondary schools for the FRSS survey, a stratified sample of 1,200 public secondary schools, including 600 vocational schools and 600 comprehensive (regular) schools, was selected from the 1996-97 Quality Education Data (QED) National Education Database. The QED database is compiled from a variety of sources, including the National Center for Education Statistics' Common Core of Data (CCD) public school universe file. Almost 16,000 comprehensive secondary schools and 1,300 vocational schools met the eligibility requirement for this study; that is, they had 11th or 12th grade. Excluded from the sampling frame were private schools (the CCD does not include private schools), special education and alternative/other schools, and schools in the outlying U.S. territories.

Respondents and Response Rates

Questionnaires with letters explaining the purpose of the study were mailed to school principals in early April 1999. The questionnaires were to be completed by the person who was most knowledgeable about vocational education at the school. Telephone followup of nonrespondents was conducted during May and June 1999. Of the 1,200 schools selected for the survey, 50 were found to be out of scope for the study (29 of these were postsecondary institutions). A total of 1,078 eligible schools completed the survey for an overall unweighted response rate of 94 percent. The weighted response rate was 95 percent.

Sampling and Nonsampling Errors

The responses were weighted to produce national estimates. The weights were designed to adjust for the variable probabilities of selection and differential nonresponse. The findings in this report are based on the sample selected and, consequently, are subject to sampling variability.

The survey estimates are also subject to nonsampling errors that can arise because of nonobservation (nonresponse and noncoverage) errors, errors of reporting, and errors made in data collection. These errors can sometimes bias the data. Nonsampling errors may include such problems as misrecording of responses; incorrect editing, coding, and data entry; differences related to the particular time the survey was conducted; or errors in data preparation. While general sampling theory can be used in part to determine how to estimate the sampling variability of a statistic, nonsampling errors are not easy to measure and, for measurement purposes, usually require that an experiment be conducted as part of the data collection procedures or that data external to the study be used.

A number of actions were taken to minimize nonsampling error. The questionnaire was pretested with respondents like those who completed the survey. During the design of the survey and survey pretest, an effort was made to check for consistency of interpretation of questions and

to eliminate ambiguous items. The questionnaire and instructions were extensively reviewed by the National Center for Education Statistics and the Office of Vocational and Adult Education, U.S. Department of Education. Manual and machine editing of the questionnaire responses were conducted to check the data for accuracy and consistency. Cases with missing or inconsistent items were recontacted by telephone. Data were keyed with 100 percent verification.

Variances

The standard error is a measure of the variability of estimates due to sampling. It indicates the variability of a sample estimate that would be obtained from all possible samples of a given design and size. Standard errors are used as a measure of the precision expected from a particular sample. If all possible samples were surveyed under similar conditions, intervals of 1.96 standard errors below to 1.96 standard errors above a particular statistic would include the true population parameter being estimated in about 95 percent of the samples. This is a 95 percent confidence interval. Estimates of standard errors for this report were computed using the jackknife replication method.

Terms and Variables

A **vocational program** was defined as a sequence of courses designed to prepare students for an occupation (e.g., nurses' aide) or occupation area (e.g., health care) that typically requires education below the baccalaureate level. Because the focus of the surveys is on preparation for jobs within specific occupations, the definition of vocational programs did not include career exploration or other introductory courses that prepare students for adult life or for work in general (e.g., consumer and homemaking, industrial arts).

A **skill competency** was defined as a concept, skill, or attitude that is essential to an occupation; the level of attainment or performance established for a skill competency is a skill standard. Because these terms tend to be used interchangeably in practice, "skill competencies" was used to refer to both skill competencies and skill standards.

The main classification variable was school type (vocational, comprehensive). Constructed variables are not included in the data files.