DOCUMENT RESUME

ED 164 053 JC 790 061

TITLE Follow-up Surveys of College Graduates: Procedures and Common Core of Questions. Two-Year Institutions.
INSTITUTION Southern Regional Education Board, Atlanta, Ga.
SPONS AGENCY EXXON Education Foundation, New York, N.Y.
PUB DATE Jul 78
NOTE 74p.; Charts on page F-3 of the document may not reproduce clearly due to small print

EDRS PRICE MF-$0.83 HC-$3.50 Plus Postage.
DESCRIPTORS *Followup Studies; *Graduate Surveys; Guidelines; *Institutional Research; Junior Colleges; *Postsecondary Education; *Questionnaires; Research Design; *Research Methodology; Research Problems; Vocational Followup

ABSTRACT

Techniques and procedures for conducting graduate follow-up surveys are summarized. Initial considerations include: survey objectives, standardization of questions, differentiating follow-ups from alumni campaigns, those who need the information, those who have responsibility for the survey, and various populations to be surveyed. Specific issues on survey content that relate to follow-up surveys are respondent identification, demographic data, updated addresses for respondents, and use of self-coding responses. The advantages of the entire population and random sample surveys are considered, as well as when during the year to conduct the survey. Practical suggestions stress up-to-date address files, timing of mailings, cover letters, postage, costs, computer processing, non-response bias, telephone checks, and checking for differences on demographic characteristics and between early and late respondents. Use and distribution of the survey results to interested parties are also explored. A common core of questions focusing on demographics, employment and educational attainment, and evaluation of programs is presented. Appendices contain occupational classification system categories, a suggested hand-out to give students before graduation, a cover letter for the survey, bulk mailing instructions, a procedure for sequential non-respondent sampling, and a bibliography. (MB)

FOLLOW-UP SURVEYS OF COLLEGE GRADUATES

Procedures and Common Core of Questions

Two-Year Institutions

Southern Regional Education Board
130 Sixth Street, N.W.
Atlanta, Georgia 30313

July 1978

This publication was partially supported by a grant from the Exxon Education Foundation.

TABLE OF CONTENTS

PROCEDURES FOR FOLLOW-UP SURVEYS

This summary of techniques and procedures on follow-up surveys covers problems frequently encountered by colleges and universities; it is not meant to be an exhaustive treatise. References should be consulted for more complete treatment of various facets in the conduct of follow-up surveys.

WHY DO FOLLOW-UP SURVEYS?

The major reason a college or university conducts a follow-up survey is to assess how well it has met its objectives. The goals and objectives of institutions of higher education are multifaceted and, to some extent, vary between institutions. The process of delineating the institution's goals and objectives, and then defining the outcomes that relate to these objectives, is a most useful antecedent of follow-up surveys. The definition of goals and the design of outcome variables have received considerable attention in other publications.

The Southern Regional Education Board (SREB) project on follow-up surveys bypasses the process of institutional goal setting, and proceeds on the assumption that most institutions share three major objectives to which follow-up surveys are addressed:

A. Education for the transmission of knowledge and the enhancement of living and participation in society.

B. Education as a means toward employment objectives of the college graduate.

C. Education as preparation for a higher level of education.

Follow-up surveys proceed on the assumption that the graduate's own perception of how well the institution has fulfilled these objectives is one way of assessing the attainment of objectives. This type of assessment is only one among other important tests measuring outcomes. For example, scores on graduate record exams and competency tests are indications of whether the institution has met certain goals of academic attainment. The use of follow-up studies is an implicit recognition that the graduates' own perceptions of how objectives have been met are important ingredients in the overall process of institutional self-assessment.

STANDARDIZATION OF FOLLOW-UP SURVEY QUESTIONS

Just as any evaluative measure gains meaning when it is "normed," or expressed in relation to outcomes for a relevant population, so do follow-up studies become more meaningful if results can be compared to those of similar institutions or to previous results for the same institution. This means some degree of question standardization is needed to permit comparisons. For example, the level of satisfaction indicated on the quality of instruction by graduates of one institution may be interpreted with more meaning if compared to the level of satisfaction shown by graduates of similar institutions. This comparison can only occur if questions regarding the quality of instruction are worded similarly.

To facilitate such comparison, SREB has prepared a common core of survey questions (see page 34). This core deals only with objectives that appear common to all institutions. Institutions that use the common core will be

able to obtain comparisons with other institutions' outcomes. Additional questions that are tailored to each institution's own objectives may, of course, be added to the common core.

DIFFERENTIATING FOLLOW-UP SURVEYS FROM DEVELOPMENT CAMPAIGNS

Follow-up surveys are NOT alumni involvement instruments. A follow-up survey seeks information for institutional self-assessment purposes. An alumni participation request seeks help from alumni. The two purposes are separate. An instrument that tries to satisfy both purposes will be less successful in meeting either need than is the case when separate contacts are made.

A follow-up survey seeks a frank evaluation of the institution by the graduate, and insures that the information regarding any one graduate will be strictly confidential and used only in statistical analysis. Obviously, this guarantee of anonymity cannot be made if the data are requested in conjunction with an open or implied request for alumni participation.

WHO NEEDS THE INFORMATION ON HOW WELL AN INSTITUTION HAS MET ITS OBJECTIVES?

The Administrators of the Institution

The president and other top administrators may seek an overall evaluation of how the institution's objectives are met. Additionally, they may be interested in comparing outcomes between departments and colleges within the institution.

Department Chairmen and Faculty

Each department or college will seek information on how its

own graduates assess instruction in their major field of study, and how they have fared in the job market or in continuing their education. It should be noted, however, that follow-up surveys do not constitute individual faculty evaluations. Although they may produce overall evaluations of instructional quality by departments or majors, follow-up surveys should not be viewed as instruments to assess individual faculty members.

Placement Officers, Career Counselors, Faculty Advisors

The information a follow-up survey produces of the kinds of occupational positions into which graduates enter, by majors, is extremely valuable for counseling current students who wish to know the occupational possibilities to which any one major leads.

Students

Institutional evaluation and educational outcome information from previous graduates are important considerations to prospective and current students. Indeed, there is increasing emphasis that such information be included in college prospectuses or catalogs to aid prospective students as consumers choosing among educational institutions.

Federal Agencies

Follow-up surveys constitute one way in which the requirements of federal legislation and regulations may be met. For example, the information required by the U. S. Office of Education under the

Guaranteed Student Loan Program for students in vocationally oriented curricula may be obtained through follow-up surveys.

Governing Boards, Legislatures, etc.

Emphasis on accountability means that in both public and private higher education, governing authorities and groups with responsibility for financing higher education are seeking data on how well institutions are meeting their mandates. Follow-up surveys that relate outcomes to institutional and student goals constitute one way of meeting accountability criteria.

Alumni

Previous graduates are often interested in information on outcomes for their own classes in terms of relating their own experience to that of their peers and for the purpose of keeping up with their alma mater.

WHO ON CAMPUS HAS RESPONSIBILITY FOR FOLLOW-UP SURVEYS?

There is great variety among institutions as to who has responsibility for conducting follow-up surveys. Institutional research offices, college placement offices and alumni offices, in that order, are the most frequent coordinators of follow-up surveys.

Regardless of who has the central responsibility for a follow-up survey on a campus, it is important that the various parties who may be interested in the survey be given an opportunity to participate in the project. These parties range from the top administration to the students and alumni, as

indicated above. In order to (1) meet the needs of the various parties for evaluative information, (2) enhance the use of the information once it is obtained, and (3) insure as high a response rate and generally successful a survey as possible, it is desirable that a coordinating or steering committee assist whichever sector of the institution is given responsibility for conducting a follow-up survey. Therefore, the initial step in preparing for a follow-up survey might be the establishment of a steering committee to assist in the development, implementation and dissemination of results of a follow-up survey.

WHOM TO SURVEY WHEN?

The objectives of follow-up studies may be met by surveys of various categories of students. At any one time, the following groups might be surveyed:

A. The previous year's graduates, including those who earned associate degrees or certificates in both one- and two-year programs.

   1. Spring quarter graduates only
   2. All graduates of the entire academic year

B. The previous five (or more) years' graduates.

C. Non-returning students, i.e., students who did not obtain a degree or certificate. This group might include individuals who enrolled without ever intending to obtain a degree or certificate, as well as others who did intend to complete a program, but for some reason failed to do so. Non-returning students constitute a large portion of community college enrollments, so that evaluation of outcomes for this group is important for an overall assessment of the institution's objectives.

D. An earlier class of graduates for a longitudinal resurvey to update findings obtained from an initial survey when they graduated.

E. Combinations of the above.

Most institutions do not have sufficient resources to undertake every possible type of survey, and begin follow-up efforts by focusing on recent graduates. Two-year institutions, however, are more likely than four-year colleges to survey non-returning students as well as graduates. Some institutions have found it expedient to include both non-returning students and graduates in a single survey. In that case, the most practical way of defining the survey population is to include all first-time students during a given past quarter (semester), usually two years ago, who are not currently enrolled in the institution. Under this approach it is often convenient to use the addresses pertaining to each name that were also obtained as far back as two years ago. Many of these addresses may no longer be valid. For non-returning students these old addresses may be the only available in-house records. For graduates, however, an effort should be made to obtain a more recent set of addresses before students leave the campus.

Follow-up surveys of the previous year's class usually do not reveal tremendous differences from one year to the next. Therefore, instead of annual surveys of the previous year's class, it is more reasonable to use "off years" to resurvey a class that has been surveyed earlier, or to concentrate on non-returning students. The latter group in two-year institutions includes those who enter to gain a specific skill, rather than completing a degree or certificate program. A survey of non-returners may reveal that many of these students achieved their enrollment goals.

The SREB project at this time focuses on the prevailing type of follow-up surveying, as determined by what institutions within the region have indicated to SREB, i.e., follow-up of the previous year's graduates. The common core of

questions found on page 34 is designed for persons completing a program in a two-year institution. Institutions wishing to survey a combination of non-returning students as well as graduates are requested to contact SREB for a model instrument designed to include both groups.

CONTENT OF FOLLOW-UP SURVEY FORMS

SREB has prepared a suggested core of follow-up survey questions for use by two-year institutions (see page 48). This core of questions was developed after a thorough review of survey instruments that have been used by institutions and higher education state agencies throughout the region and in other states during the past several years. Additionally, the National Center for Higher Education Management Systems (NCHEMS) survey instruments have been carefully considered.

Questions or subjects that consistently appear in forms used throughout the region indicate areas of strong interest and signal a need for inclusion in a common core of questions. The wording of the questions included in the common core largely reflects the choice of wording in existing instruments as well as accepted practices in survey research. References on survey research are included on page G-1 for those who wish to consult the literature. Some specific issues on survey content that relate uniquely to follow-up surveys are discussed below.

Identification of the Respondent

The Federal Privacy Act guarantees that an institution will never use survey information in a way that would permit responses to be identified with a single individual. The guarantee of privacy should be

emphasized to the graduate on the survey form and in the cover letter. Many graduates, however, may still question the dependability of this guarantee if they are asked to give their names on the survey instrument. Yet the name of the graduate, or an identifying number, is needed, since in the absence of identification of respondents, there is no way of knowing who the non-respondents are, and who needs a reminder letter.

Because of the need to keep track of respondents, most surveys do request the graduate's name. In this case, it is best to be open about it and state that the name is needed for two reasons:

1. "We need your name because without it we have no way of knowing who needs a reminder letter."

2. "We need your name if you wish to be among those who will receive highlights or a summary of the survey responses."

An offer to share the summary of a survey in which a person participates may serve as an inducement for the person to complete the survey form, and demonstrates that the institution is willing to share results with respondents.

Social Security Numbers

There is a further question as to whether a student's identification number (e.g., the Social Security number) should be requested or used on the survey form. The identification number of the survey form is useful under the following circumstances:

1. If the demographic data on each respondent are to be obtained from computer tapes on student records, instead of being requested on the form from the respondent, and if the computerized tapes on student data are indexed by identification numbers, then the use of identification numbers simplifies the automated integration of the demographic data with the response data on the survey forms.

2. If a longitudinal survey is planned so that this year's respondents will be resurveyed in succeeding years, it will be much easier to integrate the computerized records from one year's survey with the corresponding respondents on another year's survey if both data files are indexed by Social Security numbers.

If neither of the above two reasons applies, there is no compelling reason to ask for, or to use the graduate's Social Security or other ID number. In that case, it should be left off.

Self-coding

Self-coded survey instruments will expedite manual as well as computer processing of the survey responses. A self-coded response means that data can be transferred directly from the questionnaire to keypunching without necessitating an intervening processing step. To be self-coded, a question must provide numbered multiple choice answers. This means the multiple responses to any one question must be mutually exclusive, or a respondent may pick only the one answer that best fits his case. Open-ended questions may provide more detailed information than it is possible to obtain through multiple choice responses; however, it is difficult and sometimes impossible to summarize open-ended questions. Also, the information provided in open-ended questions is useless if no one has the time to wade through the responses.

Before designing a self-coded response instrument, it is vital to consult technical staff who will be involved in processing the responses. The design will vary depending on whether optical scanning or keypunching is to be used.

Computer processing of survey responses is desirable even for small institutions. Manual processing of responses for individual questions is not too difficult for a limited number of responses; however, if responses are to be cross-matched between questions, manual processing becomes a nightmare even for a small number of respondents. For example, if, in addition to a summary of employment outcomes for all respondents, a breakdown is desired by majors, then manual processing becomes extremely tedious. Much of the information to be gained from follow-up surveys is derived from cross-matching responses to different questions, and much information is lost if the time involved in manual processing precludes such analysis. (For suggestions on computer processing possibilities, see page 25.)

For some questions it is cumbersome to provide multiple choice answers for self-coding. For example, almost all surveys request occupational information about the graduates. In order to obtain enough specificity on occupational outcomes to yield meaningful information, a fairly long list of possible occupations would have to be provided for self-coding. Similarly, if the graduate is to choose from a list of possible majors, another list detailed enough to accommodate a wide variety of majors would have to be provided with the survey form. Therefore, for questions dealing with occupation, type of employer or major, it may be desirable to provide a blank for the respondents to complete, instead of including self-coded multiple choice lists. Where blanks are provided, the institution must anticipate coding the responses according to a

standard classification system for occupations, types of employer (industry) and majors, if any use is to be made of these responses.

For coding the occupations of the respondents, several classification systems are available, including the U. S. Department of Commerce, Classified Index of Industries and Occupations (1970 Census of Population), and the Dictionary of Occupational Titles developed by the U. S. Department of Labor. The state employment security agencies also have in common an occupational classification system which they have used in recent years to project average annual openings by occupations. The use of this list is practical where data on occupational outcomes for graduates is to be compared against projections of openings in various occupations. Therefore, that list has been used, and slightly modified, as a suggested classification system for coding occupational responses by graduates, and is shown as Appendix A.

For coding majors, the Higher Education General Information Survey (HEGIS) classification system is now universally used, and is included as Appendix B. Self-coding of majors by respondents may be practical for institutions with a limited number of majors. In that case, this limited list of majors could be included as part of the survey instrument, with the appropriate HEGIS code numbers, for the respondent to use in self-coding.

Demographic Data

It is the consensus among experts on surveying that shorter questionnaires yield higher response rates than longer questionnaires. Thus, the questions to be included should be those with the highest priority.

Demographic data that are useful for analyzing results include the following: date of graduation, degree earned, major, race, sex, age and grade-point average. For most institutions, each of these variables is obtainable from student records—although integrating student records with follow-up responses does mean more work. There are several options regarding this issue.

A. Where sophisticated management information systems are already in place within the institution, a computerized file of demographic data may be constructed for all graduating students. This file may then be integrated with the computerized file of the graduates' follow-up responses, provided the same identifying numbers (probably Social Security) are used on survey forms as well as student records.

B. For a small institution, with a limited number of graduates, where student records are not computerized, it might not be too time-consuming to extract the demographic data from student records by hand.

C. For a larger institution, where student demographic data are not already computerized, the most practical solution for integrating such data with the follow-up responses is to ask the graduate to supply the information on the follow-up survey instrument. In this case, particular caution should be exercised not to ask for demographic data that will not be used in analyzing the results. For example, unless there is a definite intent to analyze responses according to grade-point averages, or race of graduates, there is no reason to ask for these variables.

Updated Address on Survey Form

Should an updated or corrected address be requested on the survey form? (This would be pertinent where the survey form reached the graduate via forwarding, so that the actual address is different from the one on the institution's records.) Generally the survey form should be kept as brief as possible. Thus, it makes no sense to ask all respondents for their addresses. Space could be provided at the end of the form, however, requesting the respondent to fill in a corrected address, with the following type of message:

"We are interested in maintaining contact with you in the future. Therefore, we would like our addresses to be as accurate as possible. Is the address on the envelope which reached you still the permanent address through which mail is most likely to reach you in the future? If not, please

indicate the most likely permanent address by which we might reach you in the future."

_____

_____

_____

A SAMPLE OR THE ENTIRE POPULATION?

Should a follow-up survey include all graduates or a sample? Several issues need to be considered.

Advantages of Surveying the Entire Population

1. Response rates of follow-up surveys usually vary from 30 to 80 percent, depending upon many factors. Where a fairly low response rate is expected, follow-up efforts must be increased, thereby negating some of the economy expected from using a sampling procedure.
2. Various studies have had contradictory results on non-response bias. Where non-respondents have been checked, some studies have found that non-respondents do vary from the responding population, and from the population as a whole. Others have found the opposite. As long as a distinct possibility exists that there will be a bias between respondents and non-respondents, it is desirable to minimize this bias by obtaining as high a percentage of respondents as possible.

3. One of the uses of follow-up surveys is to compare outcomes by majors or departments. For example it is often valuable to analyze results by departments, relative to the population as a whole. Since in any one year many departments or majors produce few graduates, a sample is likely to produce too thin a result to warrant analysis by departments. Likewise, it is very difficult to draw any conclusions about the kinds of occupations that graduates enter with any one major if the number of responses per major is limited. Sampling may reduce the responses by major to such an extent that little may be learned regarding employment outcomes.

4. Where the graduating class is small to begin with, the difference in cost between a survey of the entire class and a sample is small, since the developmental and staff costs will be fairly equal regardless of the number of responses or mailed questionnaires.

5. Sampling is more appropriate when personal interviews by skilled interviewers are used. Personal interviews are more costly than mailed questionnaires.

Advantage of a Random Sample

Where a large graduating class of several thousand individuals is involved, sampling does produce considerable economies because of reduced mailing costs. The additional effort and cost of precisely

following random sampling techniques must, of course, be taken into account.

Most institutions in the region that have conducted follow-up surveys have included the total population rather than a sampling procedure.

WHEN DURING A YEAR SHOULD A SURVEY BE CONDUCTED?

Most surveys of the previous year's graduates are conducted approximately 6 to 9 months after the spring graduates have left the campus. (If the survey covers all graduates of the previous academic year, some graduates from previous summer, fall or winter quarters or semesters would have been out longer than the spring graduates.)

Surveys that take place soon after graduation have the following disadvantages:

1. Graduates may not have settled into their first permanent job.
2. Graduates who pursue further education may not have been enrolled long enough to be able to make any judgment about the quality of their preparation.
3. Graduates' plans are still in a state of flux, so that actual outcomes are not yet available.
4. Graduates have not been away from the campus long enough to permit a dispassionate evaluation of their college experience.

Surveys that take place very long after graduation have the following disadvantages:

1. Intervening developmental experiences may cloud the graduates' perspectives of how the college experience affected what has occurred by then.

2. Addresses become outdated, the longer the interval from graduation.

3. Response rates drop as time between graduation and surveying increases.

4. Survey instruments must become more complex the longer the time interval between graduation and surveying since they must distinguish between various possible events occurring since graduation (e.g., first and subsequent jobs, degree earned at the surveying institution vs. subsequent educational experience, etc.). A survey instrument designed to collect information more than one year after graduation tends to elicit longitudinal information rather than information about what is happening to the graduate at one point in time.

Exit Surveys

A survey before students leave a campus (an exit survey) does not constitute a follow-up survey. For many graduates, exit surveys do not yield actual outcomes, but only "hoped-for" plans. Also, exit surveys cannot produce evaluative data about the college experience regarding an outcome as yet unexperienced.

One way of gaining a higher response rate on a follow-up survey is to combine exit survey data with follow-up survey data. Such combinations may be accomplished in two ways:

A. All graduating students may be surveyed upon exit before graduation. They may then all be resurveyed later in the year. Responses from the two surveys may then be combined in the following manner:

   1. First, use the responses from the respondents to the follow-up survey.

2. For non-respondents, use the information given on parallel questions on the "exit" survey. Parallel questions are those that elicited firm plans upon exit, rather than "hoped-for" plans. For example, if on the exit survey a student is asked, "What are your employment plans?" the response would not be comparable to the response from a follow-up survey question, "Are you now employed? If so, what is your job title?" To obtain comparable answers, the parallel exit survey question would have to be, "Have you found a job? What will be your job title?"

The above procedure for combining exit and follow-up survey responses has the advantage of raising the response rate since it fills in gaps on follow-up non-respondents by using data from exit surveys, which usually have higher response rates than follow-up surveys. This procedure may slightly reduce the cost of follow-up surveys, since it reduces the necessity for second, third, or fourth wave mailings of the follow-up survey.

B. Another possibility is to combine exit survey data with follow-up survey data by surveying only those graduates who upon exit did not have definite plans at that time. This combination does reduce the cost of follow-up surveying since it reduces the number of contacts necessary in the initial follow-up survey. However, this type of combination will yield less evaluative material from graduates regarding their employment or continued educational experiences (which have not yet occurred at exit) than when all graduates are included in the follow-up survey.

When to Mail Surveys

A survey timed to reach graduates around the middle of November has the advantage of perhaps finding graduates at their parents' homes, which may correspond to the permanent addresses the graduates provided. Some institutions have found the response rate increased when a mailing was timed for the Thanksgiving holidays.

PRACTICAL HINTS ON THE MECHANICS OF FOLLOW-UP SURVEYS

Efficient procedures for follow-up surveys produce the highest possible response rates at the lowest possible cost. Several aspects that affect response rates and costs are covered below.

Building an Up-to-Date Address File

The response rate depends to a great extent upon the adequacy of the address file of the graduates. One statewide survey obtained up-to-date addresses by asking students, before graduation, to complete an address form. (See Appendix D.)

Such a form serves a dual purpose: It prepares the graduate to expect a survey in the future, and it elicits the "best" available address. This address is often different from the one in student records.

How Many Waves of Surveys Should Be Sent?

All institutions have found that repeated waves of mailings do improve response rates. The added cost of extra mailings, however, must be weighed against the improvement in response rates. A minimum of two mailings is universally recommended by those with

experience. Responses continue to rise after two mailings, but at diminishing rates.

Each mailing should include a survey form. A postcard reminder as a second mailing is not as cost-effective as a second mailing with another survey form enclosed. (Although the postcard costs less than a second mailing with a form, the postcard cannot elicit a response if the graduate has lost the initial form.)

How Far Apart Should the First and Second Mailings Be?

A first mailing that gives the graduate a time limit to respond ("please send your response within ten days") is more effective than one which leaves the time of response open-ended. Assuming that 10 days are given, a minimum of two weeks between mailings will accommodate the schedule requested from the graduates. If, however, the institution has not finished logging in initial respondents against the list of graduates by the end of two weeks, a longer time interval between mailings is needed.

How to Check Respondents Against a List of Graduates

One system that has been found practical by several institutions is to develop multiple sets of alphabetical mailing labels for the graduates before the first mailing. If two waves of mailings are planned, a minimum of two sets of labels will be needed. (A third optional set would be helpful if non-respondents are to be randomly checked by telephone for non-response bias.)

When two sets are used, the first set of labels obviously goes on the envelopes of the first mailing wave. As the responses arrive, the labels for respondents are destroyed on the second set of labels, and the leftover labels constitute the group that will receive the second mailing wave. If three sets of labels were prepared, first wave respondents' labels are destroyed on the second and third sets of labels, and second wave respondents are destroyed on the third set of labels. The leftover labels constitute the final non-respondents. Out of this group, a random sample may be picked for telephone interviews to maximize the response rate and to check for non-response bias.

Cover Letters

The cover letter that accompanies the survey form sets the tone for the message from the institution to the graduate. The importance of the survey will be underscored if the cover letter is signed by the president of the institution. The cover letter should stress the value of the individual graduate's evaluation of the institution's program and services. Also, the cover letter may point out that the experience of each graduate in the job market or in further education will be helpful to current students with similar majors.

The cover letter, as well as the survey form, should stress the confidentiality of the graduate's response. For example, the letter or the survey form might include the following statement:

"CONFIDENTIALITY: The Privacy Act of 1974, P.L. 93-597.88 STAT. 1896. Senate Bill 3418 guarantees you confidentiality. The information obtained on this questionnaire will only be used in summary form for statistical purposes. After the information is recorded, all questionnaires will be destroyed."

A sample cover letter is included in Appendix D. When a second wave of mailings is sent, the cover letter should ask the graduate to disregard this request if the graduate has already sent in the form.

Postage

Always be sure to include a business reply return envelope with postage prepaid. First-class mailings have been demonstrated to elicit higher response rates than third-class mailings. First-class mail is more personal and also has the advantage that the post office will forward such mail to a forwarding address, which is not done for bulk rate mailings. Bulk rates, however, are considerably less than first-class rates. The minimum third-class bulk rate for nonprofit organizations, as of May 29, 1978, is 2.4¢, provided at least 200 pieces are mailed, and a $40 annual permit has been paid.

Although the bulk rate designation on the envelope does not convey quite the same personalized impression on the graduate as a first-class stamp, the forwarding advantage of the first-class mailing can be obtained in bulk rate mailings in the following manner:

> On a bulk rate mailing envelope, stamp the message, "Return Postage Guaranteed." If the addressee is not at the address, the letter will be returned to the sender with the reason for non-delivery. The sender pays a 45¢ charge for this service. Re-address the letter and send it out first

class this time, and now the post office will forward it to a forwarding address, if the post office has one.

In this manner bulk rate postage is used and for an assumed 10 percent undeliverable mail, an extra 60¢ is used for the return postage guarantee and the cost of remailing, at the 15¢ rate. The savings on bulk rate postage by far outweigh the extra cost of the 10 percent undeliverables.

Bulk rate mailing instructions are shown in Appendix E.

Costs

Reported costs of follow-up surveys vary widely, depending primarily on whether or not staff costs are included. Where new personnel are to be employed to conduct a follow-up survey, staff costs obviously represent an extra cost to an institution. Most institutions, however, place responsibility for follow-up surveys on existing staff. Including the cost of existing staff is worthwhile if there is an issue of whether such staff would engage in some other specific activity if a follow-up survey were not undertaken.

Materials and mailing costs as estimated by NCHEMS range from 17¢ to 26¢ per student contact (as contrasted with student response) for nonprofit bulk and first-class rate mailings respectively. Only one mailing wave is included.

The University of North Carolina (Chapel Hill) reports costs of 35.6¢ and 41.5¢ per student contact for their 1976 and 1977 surveys, respectively. This includes materials and mailing costs

(one mailing wave, first class) as well as staff costs in processing, survey preparation and mailing. No costs are included for analyzing responses and preparing the final report.

The University of Illinois reports costs of $17,000 and $19,000 for its surveys of 1972 and 1973 graduates, respectively. This includes overhead costs (staff, computer time, reports, etc.) as well as mailing costs, and averages $1.86 and $1.50 per student contact for the two respective classes. (The survey of the 1973 class included a larger number of graduates, which reduced the per unit cost of the survey.) Both surveys included three mailing waves.

Navarro College, a two-year institution in Texas that monitored follow-up survey costs for six institutions cooperating in the development of the Texas Information System, reports that staff costs account for 70 percent of total follow-up survey costs. Costs are further classified by Navarro College as operational versus developmental. The developmental costs represent one-time costs in designing the instrument and the system's procedures, while operational costs represent recurring costs to be expected with each survey. For mailed follow-up surveys, with responses processed by computer, the per student contact cost was calculated to be $3.27, of which 70 percent represents staff costs. The participating colleges, whose follow-up costs were averaged to yield these data, used either three or four mailing waves in their surveys.

Computer Processing

The responses of follow-up surveys, even for a limited number of respondents, are much more easily summarized and analyzed by computer than manual processing. The Statistical Package for the Social Sciences or the OSIRIS III are ready-made computer programs that may be used to process and analyze the responses. These programs will summarize responses to each question and will also cross-match variables, or show responses to any one question on a survey form by different responses to any other question. (Examples of such cross-matches are employment outcomes by majors, sex, race, age or levels of satisfaction with any facet of the institution by various characteristics of the graduates.)

If cross-matches are to be produced, the computer programmer will need to know which variables are to be cross-matched. The variety of possible cross-matches is tremendous, and in order to limit data output to what will be useful and comprehensible, only those cross-matches that will be meaningful to the institution should be requested.

The steering committee for a follow-up study (see page 6) might be used to develop the list of the most useful cross-matches. To prevent any one recipient of data from being inundated with survey results, the committee might select some cross-matches for certain institutional sectors, and different ones for other sectors. For example, the placement office might be interested in detailed

data on employment, by occupations and majors, while academic deans might be more interested in detailed data on assessments by graduates on the quality of instruction, course offerings, etc. (For further material on the use of results, see page 31.)

Availability of Computers

Institutions without internal access to computers to process survey responses may be able to obtain access to other computers, or develop cooperative arrangements with other institutions. Small public institutions without internal computer availability may perhaps arrange access to computer facilities in other public institutions through state higher education coordinating agencies. Small private institutions without internal computer facilities might wish to work cooperatively with similar institutions for the purpose of gaining access to a computer. In some areas, private firms (such as large insurance companies) will cooperate in making their computer facilities available for nonprofit research.

Response Rates

Response rates vary from survey to survey, depending upon many factors. The response rates of surveys from more than 17 four-year and 13 two-year colleges in the South were compared as a basis for analyzing response rates and what they mean. Medians, means and ranges of the response rates were calculated separately for the two- and four-year institutions in the region that reported response rates of past surveys.

The rates used in calculating these measures relate to the number of persons surveyed, with no correction for nondeliverables. In the case of the four-year group, two kinds of descriptions appear. One set of indexes is based on the response rates of surveys made of the most recent as well as of prior years' graduates. The other set derives from the response rates to surveys conducted since 1973 only of graduates of the immediately prior year. In the two-year group, all the response rates were based on graduates of the immediately prior year. In all cases, when more than one response rate was given by an institution to reflect different aspects of the same survey, an average overall rate was calculated and used in the group computations. No response rates are included for institutions surveying their graduates before they left the campus. Because of insufficient information, it is not possible to determine the number of mailings which produced the response rates of the various surveys.

Response Rates
Two-Year Colleges

Mean	50%
Median	52%
Range	27%-96%

Four-Year Colleges
(All Surveys)

Mean	44%
Median	36%
Range	26%-87%

Four-Year Colleges
(Survey of Graduates of the Immediately Prior Year
Conducted Since 1973)

Mean	44%
Median	41%
Range	26%-65%

Non-Response Bias

Since most follow-up surveys do not yield as high a response rate as might be desired, there is the problem of whether the responses are representative of the total population, or whether respondents in some way materially differ from non-respondents. If the latter is true, the survey's results are less useful.

Often follow-up surveys do not include a check for non-response bias. Such checking, however, is valuable, and there are several ways in which non-response bias may be determined without tremendous expenditure of resources.

Telephone Checks

The most direct check is to select a limited random sample among the non-respondents for telephone interviews in order to obtain responses from some non-respondents and then determine whether their responses follow the same pattern as from the respondents. Often in such telephone interviewing, the length of call can be reduced by asking selected questions instead of the entire series of the survey form. A statistical test (such as the chi-square test) is then used to determine whether there is a significant difference between the survey responses from

respondents and non-respondents. A "sequential non-respondent sampling" telephone technique, that takes the place of a statistical test, has been used in Maryland in conjunction with a statewide survey of community college students. This sequential sample technique essentially sets an arbitrary range of tolerance variation around the results obtained on any one question from the respondents. Cumulative results from the responses to a question from telephoned non-respondents are computed until this response result stabilizes (perhaps after 30-50 calls). If the stabilized cumulative response result from the non-respondents falls within the variation tolerance previously established, then the respondents' and non-respondents' responses are considered essentially the same. Further detail on this method is shown in Appendix F.

Check for Differences on Demographic Characteristics

Indirect methods of checking for non-response bias use available information about the respondents and the total population. If the demographic characteristics for respondents and the total population in the survey are essentially the same, then the inference can be made that the responses are representative of the total population, at least on the basis of their demographic characteristics. In order to check for demographic differences between respondents and the total population, demographic averages on various characteristics are computed for the respondents, and then compared to those for the total population.*

*Alternately, demographic characteristics may be checked between respondents and non-respondents. If the non-respondents differ significantly from the respondents, the latter are not representative of the total population.

A chi-square test is applied to check whether the resulting differences are significant.

If the demographic characteristics of the respondents and the total population differ, a further check is possible to determine whether such a difference tends to affect the responses on substantive questions in the survey. For example, the responses to a question on employment outcome can be analyzed for male and female respondents respectively. If there is a significant difference in the response results between these two groups, and if it is further determined that the respondents in terms of sex distribution are not representative of the total population, then it may be inferred that indeed there is a bias in the response results on that question. If, on the other hand, employment outcomes do not vary between male and female respondents, then a "biased" sex distribution of respondents relative to non-respondents would not be a danger signal that the survey's employment outcomes are unreliable. Other characteristics that might be checked are grade-point average or race. If, for either one of these characteristics, the respondents are not representative of the total population, and if the response results on any one question vary as between high and low grade-point average or race, then again the inference is made that the response results may incorporate bias.

Check for Differences Between Early and Late Respondents

The inference is sometimes made that since non-respondents might have more in common with late respondents than with early respondents,

therefore, if the responses from late respondents significantly differ from those given by early respondents, this might indicate non-respondents' bias. In order to use this method to check for non-response bias it is necessary to number responses sequentially as they arrive. Survey results might then be compared for those graduates that were among the first one-third to reply as against the last one-third to reply. If responses are not significantly different, the assumption is made that the non-respondents would also not be significantly different.

HOW TO USE SURVEY RESULTS

The survey results are useful in various ways to all sectors of the institution. (See page 3 for a review of "Who needs the information on whether an institution has met its objectives?")

The data produced by a survey will vary depending upon (1) the number of questions on the survey form, and (2) the number of cross-matches developed between responses to different questions. Not all sectors of the institution will be interested in the same data. Moreover, providing everyone with all possible data could well be overpowering. Therefore, selective printouts or descriptive analysis of the results should be made available to various sectors of the institution, with an overall report summarizing the most important results of the entire survey.

If, as was suggested on page 6, a steering committee assists in conducting a follow-up survey, then the steering committee would participate in the decision as to which variables should be cross-matched, and who would be given specific detailed data.

Contents of Summary Report

In addition to summarizing the responses for all graduates to each question in the survey, a summary report should include the following background material:

1. A copy of the survey instrument
2. A description of who was included in the survey mailings
3. A description of the process (how many mailings, when mailed, what type of postage rate, etc.)
4. A response rate discussion
   (Response rates should be clearly designated as relating either to number of survey forms sent out and number of forms that presumably reached graduates after subtracting for non-deliverables.)
5. A discussion of non-response bias analysis, if this was conducted
6. A list of those who participated in the conduct or development of the follow-up survey

The following is one possible distribution of survey results:

Recipients	Type of Report	Content of Report
Alumni Governing Board or Legislative Committee	Highlights (2-page summary)	Major findings in broad summarized form.
Administration	Summary Report	A summary and analysis of responses to each question. Responses to some questions would be collapsed, instead of detailed. (For example, the summary report would not detail the various occupations into which graduates enter, but instead would report employment by perhaps 10 broad occupational categories.) This report would not include results of cross-matching responses to different questions.
Academic Deans or Department Chairmen	Summary Report plus Individual Department Report	The individual departmental report would provide responses to all questions only for graduates of that major or department.
Career Counseling/Placement Office	Summary Report plus Detailed Report on Employment Outcomes by Majors	The Employment Outcomes by Majors report would include cross-matches between major field and the detail on the occupations of the graduates and salary.
Institutional Research	Summary Report plus Cross-Matched Data on All Variables	The Institutional Research Office would maintain the file of printouts of all cross-matches between all questions on which such cross-matches were specified by the steering committee. Such detailed information would be available to anyone within the institution wishing to make further use of the data and would serve as input for required governmental reports, such as employment outcomes by race or sex.

THE COMMON CORE OF QUESTIONS

Follow-up Survey for Graduates of Two-Year Institutions

The COMMON CORE OF QUESTIONS has been developed by the Southern Regional Education Board to encourage standardization among surveys by individual institutions so that they will be able to compare their responses to those of similar institutions. The lack of standardization in past surveys has limited the possibility of comparison and consequently the usefulness of the data.

Institutions choosing to use all common core questions will be able to compare results on all the major points included in the common core. The institution that chooses to use only certain questions of the common core can still derive the benefits of standardization for those questions, even if for reasons of its own it chooses not to use the standard format on other questions.

Who is Included in the Survey?

This common core of questions is designed to cover all program completers of the past academic year, i.e., those earning associate degrees or certificates in two-year institutions. Occupational-technical, as well as college transfer program completers, are included. Institutions wishing to conduct a joint follow-up of non-returning students, as well as of graduates, are requested to contact SREB for a common core of questions designed to cover both groups.

The following documentation is background for the choice and wording of questions that are suggested for standard use in a common core of questions for follow-up surveys by two-year institutions.

The selection of the questions in the common core was guided by the following criteria:

1. Only questions yielding information that has relevance for interinstitutional comparisons should be included.
2. The core should be as brief as possible. A brief standard core leaves room for the addition of questions tailored to individual institution's needs.
3. The questions should be those that are frequently asked by institutions in past surveys and the information obtained should be meaningful for institutional program or curriculum planning.
4. The questions should be designed to elicit responses that may be scored and processed by machine. With a few exceptions the questions are self-coded.
5. The follow-up survey should be cross-sectional not longitudinal. While some institutions may want to follow these same respondents at a later time in order to develop longitudinal data, the chief purpose of this common core of questions is to determine what former students are doing at one point in time. For example, respondents are queried about their present job, and not about intervening experience plus their present jobs.
6. The questions should deal with factual outcomes and not plans of what individuals might do in the future.

The common core is presented on page 48. As presented, it does not constitute a final survey instrument. As each institution develops its own instrument, incorporating all or some of the common core, it should secure assistance from its own data processing department to insure that the format of the final instrument meets requirements for self-coding and computer processing.

SECTION A

(Note: The information for items 1 through 5 may be available and readily retrievable from institutional records. In that case, these items need not be requested from the respondent. Instead they could be included in the label on the survey form, with instructions to the respondent to correct any portion of the label that is incorrect.)

Question 1--Name is needed to link the questionnaire to demographic information about the student obtainable from other sources (e.g., from the registrar's office) or to subsequent longitudinal studies. However, the name is not part of the common core in that it will never be compared across institutions. Inclusion of the name facilitates the mailing of questionnaires to those graduates who do not respond to the initial mailing. This may, however, present a threat to privacy. For a further discussion of this issue, see page 8.

Question 2-4--Sex, race, age must be included if the outcomes are to be analyzed by sex, race and age variables.

Question 3--Race, the full set of HEGIS responses should be included. The last HEGIS response (non-resident alien), although not a racial category, is useful for analytical purposes.

Question 5--What type of award did you receive? is needed in order to permit analysis of the results by the type of award respondents received. Only major classifications of the type of awards are included as responses in the common core for interinstitutional comparisons. For their own internal uses, individual institutions may wish to request more detail in the responses, such as: Associate degree in arts--college transfer program

Associate degree in science--college transfer program

Question 6--What was your program? is common to all surveys because responses to the rest of the questionnaire cannot be analyzed by programs (or majors) without the information of Question 6. To facilitate coding, a list of coded majors (HEGIS, for standardization purposes) may be provided and the respondent asked to enter the number code. An option which is more accurate but time-consuming for the institution is for the graduate to write in the major and for institutional personnel then to convert the response into the HEGIS machine-readable codes.

Two lists of majors according to the standard HEGIS system are included as Appendix B. The first list is a collapsed one which shows only seven broad categories and is short enough to be reproduced as part of a mailed survey form. The disadvantage, however, is that a graduate may have difficulty in slotting his individual major into one of these seven categories.

The second list is the detailed system of the seven broad categories plus all the subdivisions within each of six broad areas. This list is useful for coding by the institution and for eventual comparisons of outcomes between institutions, but it is too long to include as part of the survey instrument for the purpose of self-coding the majors by the respondents.

Question 7--What was your primary purpose for attending College? is an important item for two-year colleges with their varied missions. While enrolled, many students change their primary goals of attending community colleges. While they may have started out on the premise of preparing themselves to transfer to a four-year institution, by the time they complete a program they may opt for immediate employment. Others who began with the goal of completing an occupational-technical program to prepare for immediate employment may decide instead to continue their college education. Question 7 permits identification of these "after the fact" perceptions, which may or may not coincide with the type of degrees completed by the graduates as indicated in Question 6.

Question 8--Was your primary purpose achieved by the time you left College? is the sequel to Question 7 and allows the respondent to make his own direct assessment of goal attainment. Goal attainments may also be assessed from cross-matching responses to various questions. For example, if the goal indicated by the respondent in Question 7 is "preparation for transfer to a four-year institution," the information in Questions 20-27 (which deal with college enrollment) will provide data on goal attainment. Such corroborative cross-matching, however, is a less direct indication of goal achievement than the respondent's own straightforward "yes" or "no" evaluation.

Questions 9-12--Evaluation of the institution or the college experience. A follow-up survey that does not include questions about the former student's assessment of his or her experience and focuses only on factual employment and continuing education outcomes, misses an opportunity to obtain evaluative

material. However, with vast differences between institutions, comparisons of the responses to evaluative questions may not be too meaningful. For that reason, and also because there is much less unanimity about what constitutes good evaluative questions, as contrasted to factual outcome questions, the suggestions for evaluative questions are not included as part of the common core.

One of the criteria for choosing questions is that they be straightforward and present no interpretive problems for the respondent. In reviewing questions that institutions have used for respondents' evaluations of their educational experience, it became clear that many evaluation questions used in past surveys do present interpretive issues that respondents might resolve in different ways. Four alternate evaluation questions, and a discussion of their advantages and disadvantages, are included below. Each institution should make its own judgment as to the choice of evaluation questions to be inserted into its own survey instrument. Any one, or combinations of these, or other evaluation questions, could be used. They should, however, be inserted between Questions 8 and 13 to preserve the continuity of the common core of questions.

The approach in Questions 9 and 10 is to focus on the "process" of the institution rather than on competencies which these processes may affect, and to ask the student to rate the various processes. The list of processes, sectors or activities of the institution to be rated could be expanded to include others which pertain uniquely or are important to the college. The list in Question 10 relates to student services provided by the college. If the "process" approach is used, both questions should be asked.

The approach in Question 11 is to focus on a number of fairly well accepted competencies which a two-year college education is generally expected to produce or, at least, to enhance for all enrollees. The list of competencies in Question 11 could be expanded to include others that pertain uniquely to the objectives of any individual institution.

Question 12 asks for a summary judgment of the respondent's experience. It provides an overall impression and is an important indicator of an institution's success. This question has been used in several recent statewide follow-up surveys.

Some surveys include all three kinds of questions--those dealing with competencies, with institutional processes or activities as well as an overall assessment. The competency items have the advantage of querying as to the ultimate objectives of higher education. But former students may have difficulty in assessing their progress towards meeting some or all of the competencies presented for evaluation. The questions that seek the student's assessment of institutional sectors or activities may be more straightforward and present fewer interpretive problems for respondents. The disadvantage of using questions that deal with processes lies in the fact that there may not be a clear connection between satisfaction with institutional processes or activities and the ultimate desired outcome of higher education in terms of developed competencies.

EVALUATION QUESTIONS

9. Please rate _____ on the following items:
Name of Institution

		Superior	Good	Fair	Poor
a.	Quality of instruction	1	2	3	4
b.	Grading and testing	1	2	3	4
c.	Instructor interest in students	1	2	3	4
d.	Content of courses	1	2	3	4
e.	Instructional materials (books, manuals, etc.)	1	2	3	4

10. Please rate the following services of _____:
Name of Institution

		Superior	Good	Fair	Poor	Don't Know Never Used
a.	Financial aid guidance	1	2	3	4	5
b.	Placement office guidance	1	2	3	4	5
c.	Quality of academic guidance	1	2	3	4	5
d.	Availability of student activities	1	2	3	4	5
e.	Library services	1	2	3	4	5
f.	Tutoring services	1	2	3	4	5

11. Please rate how well the _____ prepared you in each of the following areas:
Name of Institution

College Prepared Me					Value to Me			
Very Well	Well	Fairly Well	Poorly		Highly Val.	Val.	Some Val.	Little Val.
1	2	3	4	Job knowledge and skills	1	2	3	4
1	2	3	4	Getting along with people	1	2	3	4
1	2	3	4	Self-understanding	1	2	3	4
1	2	3	4	Knowledge about career opportunities in your field	1	2	3	4
1	2	3	4	Communication skills (oral and written)	1	2	3	4

12. Would you recommend _____ to a person seeking to
Name of Institution
complete the same program you studied?

1. Yes

2. No

Question 13--What is your current employment status? divides the respondents according to their employment status. It is important that this question be used in a standardized manner if interinstitutional comparisons regarding unemployment rates are to be meaningful. The response for "homemaker," as differentiated from the other response of "not employed and not seeking employment," has been included in recognition that women may resent being classified as not employed while engaged as homemakers.

To determine whether respondents are enrolled in further education relative to any of the responses to Question 13 it is necessary to cross-tabulate responses to Question 13 with those to Questions 20 and 21.

Question 14--In what geographic area are you employed? is an item that determines whether a college's former students are employed within the community the college serves. The approach suggested in the common core provides for self-coding, and produces as much detail on location of employment as would be of interest for interinstitutional comparison. If a two-year college is interested in learning more specific employment locations of former students who work outside the college's service area, the question needs to be expanded to provide identification of city, county and state of the respondent's place of work. The responses would then have to be coded.

Question 15--Describe your job, asks for the job title and description of duties. The responses can be converted by the institution into machine

readable codes. The alternative of attaching a list of occupational codes from which the respondent may identify his occupation is less desirable because, in order to be meaningful, a very long list of occupations would have to be attached. Respondents may not take the time to read carefully the list to pick the occupation that is comparable to their own job title. A list of occupations for use by institutions as they code the responses about jobs is included as Appendix A. (See also page 11.)

The information on respondents' occupations, when combined with their major, is useful for career counseling and program planning.

Question 16--Salary information, is important to students, placement officers and employers. Some may hesitate to answer this question and the institution would do well to insure that the summarized responses to this question will be used before including it. The requirements of reporting under the Guaranteed Student Loan program may dictate that the question be included. Monthly salary is preferred to annual salary since the frame of reference of respondents to two-year college surveys is more likely to be monthly than annual pay.

Questions 17 and 18--Relation of present job to courses taken, are included to assess occupational training outcomes. Do students find jobs that are related to what they studied? Responses to Questions 17 and 18, when combined with responses on major and job title, yield career counseling information that is very useful to current students and program planners. Question 18 is to be answered by those respondents whose current jobs are "not at all" related to their courses. This format follows the one that is commonly used for reporting under the vocational education requirements.

Note that only the present occupation is to be considered, as this entire survey focuses on current activity rather than on a longitudinal description of past jobs.

Question 19--Evaluation of college preparation for job, may or may not be relevant for interinstitutional comparisons, and therefore the question is not included as part of the common core. However, if institutions do wish assessment of the vocational preparation they provide, the following question is suggested:

19. How well do you feel _____ prepared you for this
Name of Institution
job?

1. Excellent preparation
2. Good preparation
3. Fair preparation
4. Inadequate preparation

An alternate or additional question to evaluate the effect of the educational preparation for employment is as follows:

Please check if the program you completed at our college helped you in your occupational area in any of the following ways:

1. Helped to obtain job _____
2. Helped performance on present job _____
3. Helped advance on present job _____
4. None of the above _____
5. Other _____
(Describe)

Questions 20 and 21--Are you now or have you been enrolled? are for the purpose of determining how many former students have or are now continuing their education. Since this survey has been designed to exclude previous students who are still enrolled in the institution, the question probes for enrollment information at other institutions only.

Question 22--Type of institution now attending or most recently attended, could be phrased in various ways depending on the use to which the responses will be put. If the institution needs to know only the type of institutions in which former students enroll, or transfer, and the state in which such institutions are located, the question, as worded, might be sufficient. If the institution wants data on the specific institutions that their former students and/or graduates now attend, then the wording would be more appropriate as:

What is the name of the institution you are now attending? (If you are not attending now, give the name of the institution most recently attended.)

_____ _____

Name of Institution State

Question 23--Evaluation for continuing education, elicits responses that may or may not be useful for interinstitutional comparisons. Therefore, the question is not included in the common core. This type of student evaluation is very important for program planning, especially for two-year institutions that prepare students for transfer to four-year colleges and universities. The following question asks the student to assess his preparation in relation to that of students from other institutions. In this way, the student makes an overall evaluation of his academic preparation in a transfer program.

23. As you compare yourself to other students, how well do you feel _____ prepared you for further study?

Name of Institution

1. Much better
2. Better
3. Same as other students
4. Worse
5. Don't know

Questions 24 and 25--Evaluation of transfer problems, are important for the individual institution in assessing problems of former students as they transfer to other institutions. Information about an individual institution's problems on transfers, however, are probably of no great use to other institutions; therefore, the items relating to transfer problems are not included as part of the common core.

Question 24--Have you had any problems transferring? is especially important for colleges that emphasize college parallel programs.

Did you have any problems in transferring from _____ to another institution?
Name of Institution

1. Yes (If yes, please answer Question 25)
2. No (Skip to Question 26)

Question 25--What was the main problem in transferring? asks the former student to specify the actual nature of the transfer problem. The information is valuable for assessment and for planning institutional changes to eliminate such problems. Some institutions request specific information on the number of credit hours a former student may have lost, but this is not always useful unless compared to all credit hours he earned at the institution.

What was the major problem you had in transferring to another college?

1. Lost credit hours
2. Meeting admission criteria
3. Other _____
(Specify)

Question 26--Current status and classification, requests information on the progress former students have made in pursuit of further education.

Information on the full- or part-time status of enrollment, may be cross-matched with information on full- or part-time employment data in Question 14.

Question 27--What is your current major? permits comparison of the student's present field of study to the program pursued in the two-year institution.

COMMON CORE OF QUESTIONS

Follow-up Survey for Graduates of Two-Year Institutions

1. Name _____ _____ _____ _____
   Last First Middle Maiden, if recently married

2. Sex

   1. Male
   2. Female

3. Race

   1. White
   2. Black
   3. American Indian or Alaskan Native
   4. Asian or Pacific Islander
   5. Hispanic
   6. Non-resident alien (all races)

4. Date of Birth _____ _____
   Month Year

5. What type of award did you receive at _____?
   Name of Institution

   1. Associate degree--college transfer program
   2. Associate degree--occupational-technical program
   3. Certificate or other award

6. What was your program? _____
   (Specify program)

7. As you see it now, after completing your program at _____,
   Name of Institution
   what was your primary purpose for attending this community college?

   1. Exploration of new career or academic areas
   2. Preparation for immediate entry into a career
   3. Preparation for transfer to a four-year institution
   4. Update skills for a job currently held
   5. Interest and self-enrichment
   6. Other _____
      (Specify)

8. Was your goal as indicated in Question 7 achieved?

   1. Yes
   2. No

9-12. Evaluation of college and/or competencies student gained through attendance at the college. See discussion, page 38.

13. What is your current employment status? (Include self-employment and military as "employed.")

   1. Employed full-time (30 or more hours per week)
   2. Employed part-time (a minimum of 15 hours per week)
   3. Unemployed and seeking employment
   4. Homemaker, not employed outside the home
   5. Not employed and not seeking employment. (This response may apply to current students who do not seek employment.)

   If you are employed, whether full- or part-time, answer Questions 14 through 19. If you have more than one job, respond about your primary job. If not employed, skip to Question 20.

14. In what geographic area are you employed?

   1. Within the _____ area
      Identify specific city, county or metro area the college serves

   2. Outside the _____ area
      Identify specific city, county or metro area the college serves

15. Describe your job:

   Job title _____

   Duties _____

   _____

16. Please indicate your approximate monthly salary rate (gross—before taxes and deductions):

   1. Up to $300
   2. $300-$399
   3. $400-$499
   4. $500-$599
   5. $600-$699

6. $700-$799
7. $800-$899
8. $900-$999
9. $1,000-$1,099
10. $1,100-$1,199
11. $1,200-Up

17. Is your present job related to the program you completed at _____?
Name of Institution

1. Yes, directly related (go to Question 19)
2. Yes, closely related (go to Question 19)
3. Not related (go to Question 18)

18. If your job is not related to the program you completed at _____, please indicate the principal reason why.
Name of Institution

1. Was already working with present employer before I completed the program
2. Not sufficiently qualified for a job in my field of preparation
3. Preferred to work in another field
4. Found better paying job in another field
5. Could not find a job in my field of preparation
6. Could not find a job in my field without relocating
7. Previously worked in field of preparation, but changed
8. Other _____
(Specify)

19. Evaluation of college preparation for job. See discussion, page 43.

20. Are you now enrolled in another institution of higher education?

1. Yes (Please continue with Question 22)
2. No (Please continue with Question 21)

21. Since leaving _____, have you been enrolled
Name of Institution
in another institution?

1. Yes (Please continue with Question 22)
2. No (You have completed the questionnaire. Thank you.)

22. What best describes the type of institution you are now attending? (If you are not now attending, give the type of institution most recently attended.)

1. Four-year college or university in _____ (Name of State)
2. Technical school in _____ (Name of State)
3. Two-year college in _____ (Name of State)
4. Other _____ (Specify)

23. Evaluation of program for continuing education. See discussion, page 45.

24. and 25. Evaluation of transfer problems. See discussion, page 45.

26. If you are currently enrolled in an institution of higher education, please indicate your current enrollment status and classification at the college indicated in Question 22.

A. Status

1. Full-time student (12 hours or more)
2. Part-time student (less than 12 hours)

B. Latest classification

1. Freshman
2. Sophomore
3. Junior
4. Senior
5. Obtained a bachelor's degree
6. Other _____ (Specify)

27. What is your current major?

1. _____ (Specify)
2. No major declared

Appendix A

OCCUPATIONAL CLASSIFICATION SYSTEM CATEGORIES

Four-Year College Survey

Code	Occupation
	Professional, Managerial, Administrative and Technical (except teaching and health occupations)
101	Accountant, appraiser or assessor
102	Actor, actress
103	Administrator or manager
104	Administrative assistant
105	Bank officer
106	Biological scientist
107	Buyer
108	Chemist
109	Clergy
110	Computer programmer, analyst
111	Counselor, school or guidance
112	Counselor, career or employment
113	Economist (not teaching)
114	Editor
115	Engineer
116	Engineering or science technician
117	Interior designer/decorator
118	Lawyer
119	Legal aide
120	Librarian
121	Managerial trainee
122	Mathematician/statistician, actuary (not teaching)
123	Military service (officer)
124	Music director, musician
125	Personnel worker
126	Psychologist (not teaching)
127	Public relations/publicity
128	Reporter, announcer, etc.
129	Research worker or assistant
130	Sales manager
131	Social worker
132	Sociologist (not teaching)
133	Urban or regional planner
134	Writer
135	Other (Please specify on questionnaire.)

Four-Year College Survey (continued)

Teaching

201 College teacher
202 Early childhood education
203 Elementary teacher
204 High school teacher
205 Special education teacher
206 Teacher, other (Please specify on questionnaire.)

Health Occupations

301 Clinical laboratory technician
302 Dental hygienist
303 Nurse's aide
304 Nurse, registered
305 Physician's aide
306 Physician, dentist, veterinarian, optometrist
307 Radiological technician
308 Therapist (occupational, physical, etc.)
309 Other health technician or technologist
310 Other (Please specify on questionnaire.)

Clerical or Sales

401 Advertising agent
402 Bank teller
403 Bookkeeper
404 Clerk
405 Computer operator
406 Insurance agent or broker
407 Keypuncher
408 Model
409 Real estate agent or broker
410 Receptionist
411 Sales clerk
412 Sales (wholesale and manufacturing)
413 Secretary
414 Securities sales
415 Statistical clerk
416 Stock clerk or shipping clerk
417 Survey interviewer
418 Travel agent
419 Typist
420 Other (Please specify on questionnaire.)

Four-Year College Survey (continued)

Public and Personal Service Occupations

501 Barber, beautician
502 Bartender
503 Cook
504 Fire fighter
505 Flight attendant
506 Police officer, guard
507 Waiter, waitress
508 Other (Please specify on questionnaire.)

Craftsmen/Operators Trades

601 Auto Mechanic
602 Construction craft worker
603 Draftsman
604 Machine operator
605 Machinist, mechanic, tool and die maker
606 Radio/TV repair
607 Welder
608 Other (Please specify on questionnaire.)

Farming, Fishing, Forestry

701 Farmer
702 Forester
703 Other (Please specify on questionnaire.)

Two-Year College Survey

Code	Occupation
	Administrative, Clerical, Management and Sales Occupations
101	Accountant
102	Administrative assistant
103	Advertising agent, salesperson
104	Bank teller
105	Bookkeeper
106	Buyer
107	Cashier
108	Clerk
109	Insurance agent and broker
110	Insurance adjuster and examiner
111	Mail carrier and handler
112	Personnel worker
113	Real estate agent and broker
114	Receptionist
115	Sales (wholesale and manufacturing)
116	Salesperson
117	Secretary
118	Stock or shipping clerk
119	Telephone operator
120	Typist
121	Other (Please specify on questionnaire.)
	Data Processing Occupations
201	Computer operator
202	Computer programmer
203	Data processing machine repairman
204	Keypuncher
205	Other (Please specify on questionnaire.)
	Creative and Commercial Arts
301	Actor, actress
302	Artist
303	Decorator, designer
304	Model
305	Musician, music director
306	Photographer
307	Photographic process worker
308	Other (Please specify on questionnaire.)

Health Occupations

401 Clinical laboratory technologist or technician
402 Dental hygienist, assistant
403 Dental laboratory technician
404 Nurse, registered
405 Nurse's aide, orderly, attendant
406 Practical nurse
407 Radiologic technologist or technician
408 Therapist or therapy assistant
409 Other health technologist or technician
410 Other (Please specify on questionnaire.)

Engineering and Science Technicians, Crafts Workers and Repairmen

501 Air conditioning, heating or refrigeration repairman and installer
502 Aircraft mechanic
503 Appliance installer or repairman
504 Auto mechanic
505 Carpenter
506 Construction trades craftsman
507 Draftsman
508 Electrician
509 Engineering or science technician
510 Foreman
511 Inspector
512 Machine operator
513 Mechanic, machinist, tool and die maker
514 Office machine repairman
515 Plumber
516 Printing trades crafts worker
517 Radio and television repairman
518 Surveyor
519 Welder
520 Other (Please specify on questionnaire.)

Public and Personal Service Occupations

601 Airline attendant
602 Barber, beautician
603 Bartender
604 Cafeteria, restaurant, bar manager
605 Cook
606 Counselor

Two-Year College Survey (continued)

Public and Personal Service Occupations (continued)

607 Fire fighter
608 Library assistant or attendant
609 Police officer, guard
610 Recreation worker
611 Social worker
612 Transport operators
613 Waiter, waitress
614 Welfare service aide
615 Other (Please specify on questionnaire.)

Agricultural and Natural Science Occupations

701 Animal caretaker
702 Farmer
703 Forester
704 Gardner, landscaper
705 Public health inspector, sanitarian
706 Other (Please specify on questionnaire.)

Teaching Occupations

801 Child care worker
802 Elementary school teacher
803 High school teacher
804 Preschool teacher
805 Teacher aide
806 Other (Please specify on questionnaire.)

Appendix B

CODES AND MAJORS (BROAD CATEGORIES)
FOR SELF-CODING BY RESPONDENTS

Codes	Two-Year College Survey
5000	BUSINESS and COMMERCE TECHNOLOGIES
5100	DATA PROCESSING TECHNOLOGIES
5200	HEALTH SERVICES and PARAMEDICAL TECHNOLOGIES
5300	MECHANICAL and ENGINEERING TECHNOLOGIES
5400	NATURAL SCIENCE TECHNOLOGIES
5500	PUBLIC SERVICE RELATED TECHNOLOGIES
5600	ARTS and SCIENCE or GENERAL PROGRAM (include all general transfer programs in this category)

DETAILED MAJORS FOR CODING BY INSTITUTIONS

Two-Year College Survey Majors

5000 BUSINESS AND COMMERCE TECHNOLOGIES
- 5001 Business and Commerce Technologies, General
- 5002 Accounting Technologies
- 5003 Banking and Finance Technologies
- 5004 Marketing, Distribution, Purchasing, Business, and Industrial Management Technologies
- 5005 Secretarial Technologies (include Office Machines Training)
- 5006 Personal Service Technologies (Stewardess, Cosmetologist, etc.)
- 5007 Photography Technologies
- 5008 Communications and Broadcasting Technologies (Radio/TV, Newspapers)
- 5009 Printing and Lithography Technologies
- 5010 Hotel and Restaurant Management Technologies
- 5011 Transportation and Public Utility Technologies
- 5012 Applied Arts, Graphic Arts, and Fine Arts Technologies (include advertising design)
- 5099 Other, Specify

5100 DATA PROCESSING TECHNOLOGIES
- 5101 Data Processing Technologies, General
- 5102 Key Punch Operator and Other Input Preparation Technologies
- 5103 Computer Programmer Technologies
- 5104 Computer Operator and Peripheral Equipment Operation Technologies
- 5105 Data Processing Equipment Maintenance Technologies
- 5199 Other, Specify

5200 HEALTH SERVICES AND PARAMEDICAL TECHNOLOGIES
- 5201 Health Services Assistant Technologies, General
- 5202 Dental Assistant Technologies
- 5203 Dental Hygiene Technologies
- 5204 Dental Laboratory Technologies
- 5205 Medical or Biological Laboratory Assistant Technologies
- 5206 Animal Laboratory Assistant Technologies
- 5207 Radiologic Technologies (X-Ray, etc.)
- 5208 Nursing, R. N. (less than 4-year program)
- 5209 Nursing, Practical (L. P. N. or L. V. N. - less than 4-year program)
- 5210 Occupational Therapy Technologies
- 5211 Surgical Technologies
- 5212 Optical Technologies (include Ocular Care, Ophthalmic, Optometric Technologies)
- 5213 Medical Record Technologies
- 5214 Medical Assistant and Medical Office Assistant Technologies
- 5215 Inhalation Therapy Technologies
- 5216 Psychiatric Technologies (include Mental Health Aide Programs)
- 5217 Electro Diagnostic Technologies (include E. K. G., E. E. G., etc.)
- 5218 Institutional Management Technologies (Rest Home, etc.)
- 5219 Physical Therapy Technologies
- 5299 Other, Specify

5300 MECHANICAL AND ENGINEERING TECHNOLOGIES
- 5301 Mechanical and Engineering Technologies, General
- 5302 Aeronautical and Aviation Technologies
- 5303 Engineering Graphics (Tool and Machine Drafting and Design)
- 5304 Architectural Drafting Technologies
- 5305 Chemical Technologies (include Plastics)
- 5306 Automotive Technologies
- 5307 Diesel Technologies
- 5308 Welding Technologies
- 5309 Civil Technologies (Surveying, Photogrammetry, etc.)
- 5310 Electronics and Machine Technologies (TV, Appliance, Office Machine Repair, etc.)
- 5311 Electromechanical Technologies
- 5312 Industrial Technologies
- 5313 Textile Technologies
- 5314 Instrumentation Technologies
- 5315 Mechanical Technologies
- 5316 Nuclear Technologies
- 5317 Construction and Building Technologies (Carpentry Electrical Work, Plumbing, Sheet Metal, Air Conditioning, Heating, etc.)
- 5399 Other, Specify

5400 NATURAL SCIENCE TECHNOLOGIES
- 5401 Natural Science Technologies, General
- 5402 Agriculture Technologies (include Horticulture)
- 5403 Forestry and Wildlife Technologies (include Fisheries)
- 5404 Food Services Technologies
- 5405 Home Economics Technologies

5400 NATURAL SCIENCE TECHNOLOGIES (continued)
- 5406 Marine and Oceanographic Technologies
- 5407 Laboratory Technologies, General
- 5408 Sanitation and Public Health Inspection Technologies (Environmental Health Technologies)
- 5499 Other, Specify

5500 PUBLIC SERVICE RELATED TECHNOLOGIES
- 5501 Public Service Technologies, General
- 5502 Bible Study or Religion-Related Occupations
- 5503 Education Technologies (Teacher Aide and 2-year Teacher Training Programs)
- 5504 Library Assistant Technologies
- 5505 Police, Law Enforcement, Corrections Technologies
- 5506 Recreation and Social Work Related Technologies
- 5507 Fire Control Technology
- 5508 Public Administration and Management Technologies
- 5599 Other, Specify

5600 ARTS AND SCIENCE OR GENERAL PROGRAM (include all general transfer programs in this classification)

Appendix C

SUGGESTED HAND-OUT TO STUDENTS BEFORE GRADUATION

You are approaching graduation, and _____ will continue to be interested in you. We would like to keep in touch with you, and to obtain your reactions to your educational experience after you have been away for a few months. How you evaluate your educational experience, and how you fare in the months to come are important for us to know so that we might improve our programs in the future.

(Name of College or University)

To permit us to contact you for your evaluation next fall, please give us your permanent mailing address. If your address is likely to change, please give us your family's permanent address, so that the mail might be forwarded to you.

Thank you.

Name _____ _____ _____
Last First Middle

Street _____

City _____ State _____ Zip _____

Appendix D

SUGGESTED COVER LETTER FROM PRESIDENT TO ACCOMPANY FOLLOW-UP SURVEY FORM

Dear ____ Graduate:
(Year)

_____ is conducting a follow-up study of its _____ graduates, and we would appreciate your help in completing the attached form.
(Name of Institution) (Year)

Your evaluation of various aspects of your college experience will be of great help to us in planning for present and future students. Your own experience in the job market or in further education will be helpful for career planning and will benefit students with majors similar to yours.

We value your judgment as to what your college experience has meant to you. The form requires only a few minutes of your time. We request your name on the form so that follow-up reminders can be sent. Complete confidentiality of your responses is guaranteed by law, and the information you provide will be used only in summary statistical analysis.

Please complete the form within ten days, and return it in the enclosed stamped envelope.

Thank you for your cooperation and assistance. If _____ can be of help to you in any way, please contact us.
(Name of Institution)

President

Appendix E

INSTRUCTIONS FOR MAILERS OF THIRD-CLASS BULK MAIL*

GENERAL DESCRIPTION OF THIRD-CLASS MAIL

Mail matter of the third-class shall include books, circulars, catalogs and other matter wholly in print (except newspapers and magazines entered as second-class matter), merchandise and all other mailable matter that is not included in the first, second or fourth class. Printed matter is paper on which words, letters, characters, figures, or images or any combination thereof, not having the character of actual or personal correspondence, have been reproduced by any process other than handwriting or typewriting (automatic or electric). Each piece may weigh up to, but not including, 16 ounces. There is no maximum size -- see Item 8 for minimum size.

INSTRUCTIONS

1. A bulk mailing fee of $40 must be paid for each calendar year by or for any person who mails at the bulk rates (January 1 to December 31), giving you the right to mail your material during that year at the reduced rate of postage. A word of caution -- all material mailed under your bulk mailing fee must be clearly and positively identified as your material, preferably in the text of the matter, itself. Material turned over to you by other persons may not be mailed under your bulk mailing fee.

2. Each mailing must consist of identical pieces separately addressed to different addresses in quantities of not less than 50 pounds or of not less that 200 pieces. Lesser quantities may not be mailed at bulk rates. "Identical" means pieces of the same size, weight and number of enclosures. Color and textual content may vary.

3. Identifying words must be printed or rubber stamped either in or adjacent to permit imprints, meter stamps or precanceled stamps:

   a. BULK RATE (or BLK. RT.) by regular mailers

   b. NONPROFIT ORGANIZATION (or NONPROFIT ORG.) by authorized nonprofit organizations

* Adapted from Rayford T. Lewis, Graduate Follow-up by San Antonio College, a project of the Texas Student Information System on Student Follow-up, August, 1976, pp. 127-131.

4. A mailing statement must be presented with each mailing. Each item on the mailing statement must be filled out, either in ink or by typewriter. The mailing statement must bear a handwritten signature. Use Form 3602 for permit imprint mailings and Form 3602-PC for mailings bearing meter or precanceled stamps.

5. Bulk mail must be brought to a post office or station. DO NOT PLACE IN MAIL BOXES.

6. Postage may be paid in one of three ways:

   a. By use of postage meter. BULK. RT. slug must be used. Omit date from the meter impression, unless tapes are used. When meter tapes are used on third-class mail, the month and year must be shown, but the day may be omitted.

   b. By use of precanceled stamps. You must have a permit to buy precanceled stamps, but there is no charge for the permit.

   c. By permit imprint. There is a $20 fee for this permit. This permit does not expire as long as you make one mailing each twelve months. The indicia must be printed or rubber stamped and must be large enough to be perfectly legible. Acceptable forms of permit imprint indicia are illustrated. The permit number to be shown will be assigned to you by the Main Post Office Information Center.

BULK RATE U.S. POSTAGE P A I D FORT WORTH, TX. PERMIT NO. ---	NONPROFIT ORG. U.S. POSTAGE P A I D FORT WORTH, TX. PERMIT NO. ---

   Money for postage on permit imprint mailings must be on deposit before mail will be released from the Weighing Section. This is the mailer's responsibility. All fractions of postage are carried to the next higher figure.

7. Bulk rates of postage:

   If the total postage computed at the pound rates does not amount to the minimum rate per piece or more, postage must be computed at the minimum charge per piece.

   a. MINIMUM RATE PER PIECE
      ON "AUTHORIZED
      NONPROFIT ORGANIZATION".....2.4¢ each

8. Size, shape and rate of third-class cards and envelopes:

   a. Minimum size: 3" x 4¼". Cards, envelopes and self-mailers less than 3" in width or 4¼" in length are nonmailable.

   b. Maximum size: There is no maximum size for third-class mail, but pieces larger than 9" x 12" are not recommended.

   c. Shape: Cards and envelopes having shapes other than rectangular are nonmailable. For Postal purposes, a square is not a rectangle.

   d. Ratio: Cards and envelopes having a ratio of width to length of less than 1 to 1.414 are not recommended.

9. Color: Use any light color that does not interfere with legible address. Brilliant colors must not be used nor paper with an overall design.

10. Addressing: Leave at least 3½" of clear space, from top to bottom, at the right-hand end of the address side of envelopes and self-mailers. This space will be used for the address, permit imprint, return address, etc. On large envelopes or mailing pieces leave on the right end of the address side a clear rectangular space of not less than 3" x 4¼" for the address, postage, etc.

11. Sealing: The U. S. Postal Service recommends that third-class mail be sealed or secured so that it may be handled by machine.

12. Written additions: You may address, date and sign third-class mail and you may correct an error made in printing. Usually, any other handwriting or typewriting will make your mail first-class matter and not mailable at the bulk third-class rate.

13. ZIP Code: All bulk third-class mail must be fully ZIP Coded and presorted by the ZIP Code.

14. Return Addresses: A return address should be placed on all mail. However, a return address is not required on third-class bulk mail which is not of obvious value. If used, it requires a ZIP Code. Third-class bulk mail of obvious value should bear a return address.

15. Undeliverable mail: When third-class mail that is not of obvious value is undeliverable as addressed, it is disposed of as waste unless the sender directs otherwise. Endorsements that may be used are:

   a. "Return Postage Guaranteed." Mail bearing these words is considered to be of obvious value and will be transferred without charge to a new local address. When it cannot be delivered, however, it is

returned to the sender marked "Undeliverable as addressed," and return postage will be charged at the single piece rate.

b. "Forwarding and Return Postage Guaranteed." Mail bearing these words will be transferred without charge to a new local address or forwarded postage due to another post office. If the addressee refuses to pay the forwarding postage, the piece is returned to the sender who must pay both the forwarding and the return postage. If the piece cannot be forwarded because the new address is not known, it is given the "Return Postage Guaranteed" service.

c. "Address Correction Requested." The addressee's new address, or the reason why the mail is undeliverable may be obtained by the sender by use of "Address Correction Requested" or "Address Correction Requested, Return Postage Guaranteed," or "Address Correction Requested, Forwarding and Return Postage Guaranteed." The following conditions apply:

(1) A piece weighing 2 ounces or less bearing "Address Correction Requested" will be returned to the sender for a fee of 45¢ with the new address or reason for nondelivery endorsed on the piece.

(2) A piece weighing more than 2 ounces bearing "Address Correction Requested" will not be returned, however. The address information will be placed on Form 3579 to be returned to the mailer together with the address portion of the mailing piece. Fee is 45¢.

16. Miscellaneous:

a. Mail addressed to a foreign country may not be included in a bulk mailing. Call the Information Center for postage rates on foreign mail.

b. Matter bearing a permit imprint must not be mailed as an enclosure with other mail. Obliterate the indicia before mailing under cover of another envelope or cover with stamp or meter tape.

c. Consult the Information Center for advice on layout, placement of addresses, postage or indicia, return address, return postage, folding, etc. If possible, a sample mailing piece should be presented for inspection. It is suggested that new mailers allow us to approve the preparation of their first mailing, prior to actual deposit in the mail.

Appendix F

PROCEDURE FOR SEQUENTIAL NONRESPONDENT SAMPLING*

This procedure is useful when a limited number of "yes-no" questions from the survey instrument is tested for non-respondent bias in telephone interviews.

The steps are as follows:

1. Identify a list of non-respondents (NR's) excluding "addressee unknowns." Number each NR on the list from 1 to n.

2. Prepare a "Cumulative Percent Yes" sheet for each yes-no item that you will ask the NR's.

   a. Draw a solid line to represent the unadjusted percent "yes" for that item according to respondents' replies. See attached example.

   b. Decide what percent error you are willing to tolerate and draw dashed lines corresponding to that tolerance above and below the percent "yes" among the respondents: + or - 10 percent is suggested. See example.

3. Randomly select one NR, using the table of random numbers, or other random scheme.

4. Telephone the NR. If the NR is not home or has moved, call later or get new number. (Do not take answers from anyone other than the NR.) If you reach a complete dead end, discard the NR and select a new one.

5. After about 30 valid trials, record the NR answers on the proper "Cumlative Percent Yes" sheets, line a. Put "1" for yes, and "-" for a no or other response. Put the cumulative number yes on line b. Compute the cumulative percent yes by dividing line b by line c. Enter this on line d. Plot the cumulative percent yes. See example. Check each graph to see if the cumulative percent yes is beginning to stabilize (level off).

* Adapted from James D. Tschechtelin, Maryland Community College Student Follow-up Study: First Time Students, Fall, 1972, Maryland State Board for Community Colleges, October 1976.

If it stabilizes at or inside your error tolerance, you conclude that your NR's are similar to your respondents on that item.

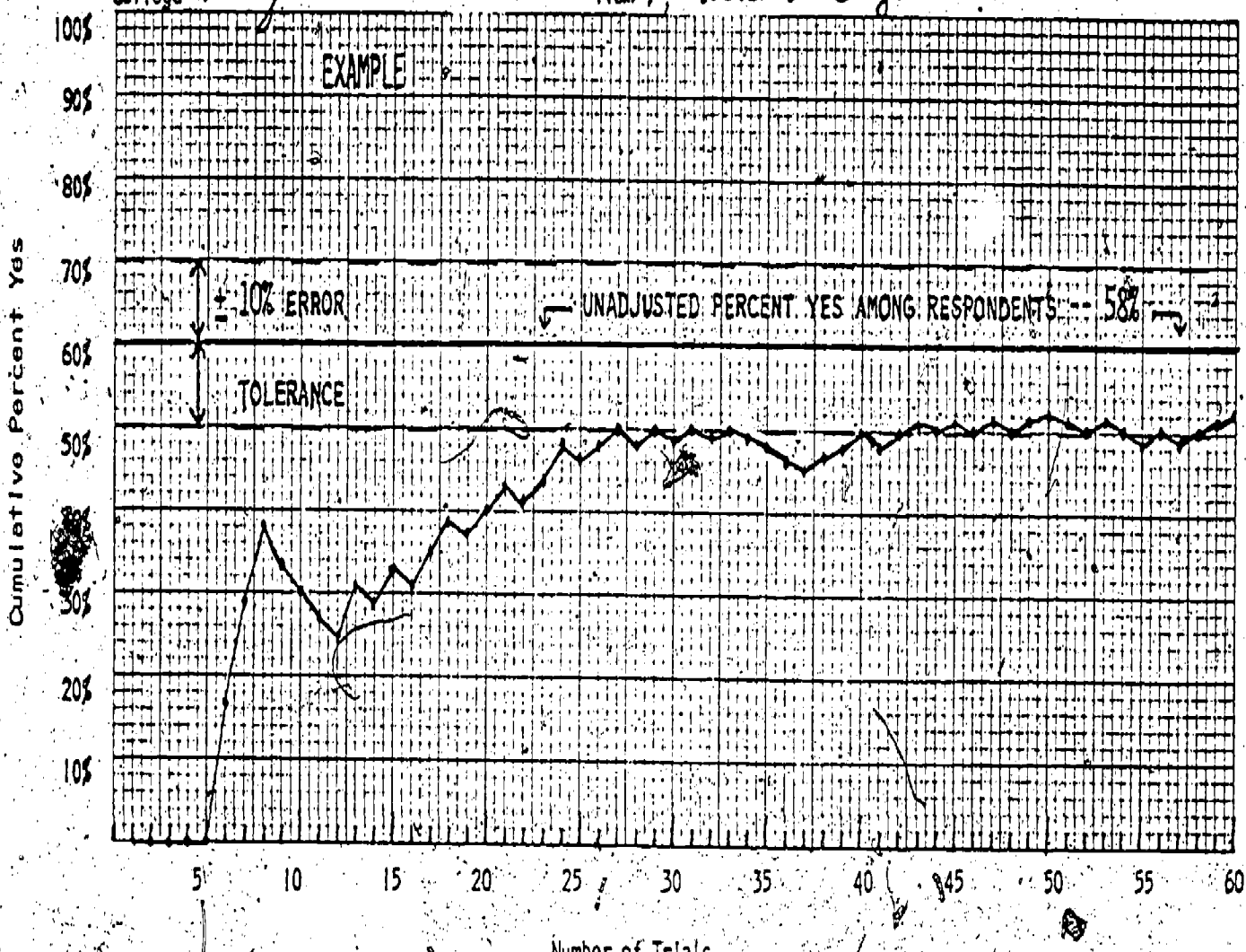
If the cumulative percent yes stabilizes outside your error tolerance limits, your NR's are apparently different than your respondents on that item.

If the graph is still climbing or falling, keep calling NR's until the graph levels off. You will probably need at least 50 trials.

6. This is a practical test and not a statistical one. For a statistical test, you could do a chi-square test with this data to test for differences between respondents and nonrespondents.

CUMULATIVE PERCENT YES -- SEQUENTIAL SAMPLING OF NON-RESPONDENTS

College Harford Item F Achieve Objective?



a. Answer (yes=1)	-	-	-	-	-	1	1	1	-	-	-	-	1	-	1	-	1	1	-	1
b. Cum. # yes	0	0	0	0	0	1	2	3	3	3	3	3	4	4	5	5	6	7	7	8
c. Trial #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
d. Cum. % yes	0	0	0	0	0	17	29	38	33	30	27	25	31	29	33	31	35	39	37	40

a. Answer (yes=1)	1	-	1	-	-	-	-	1	1	1	-	1	1	-	1	-	1	1	-	-
b. Cum. # yes	8	8	9	9	9	9	9	10	11	12	12	13	14	14	15	15	16	16	16	16
c. Trial #	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
d. Cum. % yes	38	36	39	42	40	38	36	38	41	43	42	41	42	41	40	39	38	39	38	40

a. Answer (yes=1)	1	-	1	-	-	-	-	1	1	1	-	1	1	-	1	-	-	1	-	-
b. Cum. # yes	17	17	18	18	18	18	18	19	20	21	21	22	23	23	24	24	24	25	25	25
c. Trial #	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
d. Cum. % yes	41	40	42	41	40	39	38	39	41	42	41	42	43	42	44	43	42	43	42	42

MCCRG JDT/rk 7/24/75

REFERENCES

1. Babbie, E. R. Survey Research Methods (Belmont, California: Wadsworth Publishing Company, 1973). Part Two, "Survey Research Design," is an excellent overview of issues and techniques.

2. Campbell, D. R. and Stanley, J. C. "Experimental and Quasi-Experimental Designs for Research or Teaching." In Handbook of Research on Teaching, edited by M. L. Gage (Chicago: Rand-McNally and Company, 1963).

3. Micek, Sidney S., Service, Allan L., and Lee, Yongs. Outcome Measures and Procedures Manual. Field Review Edition, Technical Report #70 (Boulder: National Center for Higher Education Management Systems at WICHE, May, 1975).

4. Oppenheim, A. N. Questionnaire Design and Attitude Measurement (New York: Basic Books, Inc. Publishers, 1966).

5. SIS, Student Follow-up, Representative Sampling, Follow-up of Spring 1972 and Spring 1973 Students by College of the Mainland, Texas City, Texas, August, 1976.

6. Selltiz, Clair, et al. Research Methods in Social Relations (New York: Holt, Reinhart and Winston, 1959). For questionnaire design, see pp. 238-255, 546-574; for sampling discussion, see pp. 509-545.

7. Seigel, N. Non-Parametric Statistics for the Behavioral Sciences (New York: McGraw-Hill Book Co., 1964).