



Essential Steps for Web Surveys: A Guide to Designing, Administering and Utilizing Web Surveys for University Decision-Making

Rena Cheskis-Gold,
Higher Education Consultant
Demographic Perspectives

Ruth Loescher,
Harvard Office of Budgets, Financial Planning and
Institutional Research

Elizabeth Shepard-Rabadam¹,
University of Southern Maine,
College of Education and Human Development

Barbara Carroll²,
Vermont State Department of Public Health,
Division of Mental Health

Background

During the past few years, several Harvard paper surveys were converted to Web surveys. These were high-profile surveys endorsed by the Provost and the Dean of the College, and covered major portions of the university population (all undergraduates, all graduate students, tenured and non-tenured faculty). When planning for these surveys started in 2001, Web surveys were still avant-garde. Dillman's 2000 edition of his classic *Mail and Internet Surveys: The Tailored Design Method* devoted only 29 of 450 pages to Web surveys, indicative of the small size of the collected body of knowledge about Web surveys at that time. We did not have a good practical manual to guide us in the Web survey process, so we wrote our own.

We have delivered versions of this paper at various conferences and at each venue, received a big group of professionals seeking ways to get started, or needing tips to refine their own processes. Since 2001, our group has done several Web surveys together at Harvard, using a variety of software packages. We also have drawn upon the growing body of literature now available on Web surveys.

In this paper, we will begin farther back in the process with how the survey projects were conceptualized and enacted in a complex university environment. We then take you through many organizational and technical aspects of doing a Web-survey. Along the way, we talk about some emerging issues surrounding survey research, such as privacy and incentives.

Critical Background Questions

The beginning of our project was similar to the beginning of all survey projects. There were four predominant reasons for conducting the surveys:

Table 1
Reasons to Do a Survey

Top-Down	University administration wants to know more about a population or subject area before formulating a recommendation.
Bottom-Up	University administration wants to make a policy or business-practice change, and needs data to support recommendation
Consortial Project	University participates in consortial project to have peer information.
Trend Data	University repeats previous survey to have trend data for decision-making.

For each project, the critical background questions were the same:

Table 2
Critical Background Questions

1. What is the purpose of the survey, and how will we use the survey data?
2. Who are we surveying?
3. Who are the audiences for the survey results?
4. What kind of support do we need for the survey effort? • Building a survey team (see below)
5. What survey methodology will we use? (see below)
6. What is the project budget?

The two survey projects that stemmed from the Harvard Office of Instructional Research and Evaluation were established consortial or trend-data surveys which already received support from the Dean of the College and had long-standing audiences for the survey results. However, a decision was made to switch both types of surveys from paper surveys to Web surveys.

The two surveys initiated by Harvard Real Estate Services (HRES) had more complex origins³. The HRES staff traditionally conducted triennial surveys on housing and transportation topics. These surveys focused on different university populations with the aim to collect updated demographic information, information on current housing decisions and satisfaction, and information about the demand and need for Harvard housing and transportation services. An earlier incarnation of one of the surveys, the 2001 Harvard Graduate Student Housing Survey, was a paper survey. There was a need for trend data, more complete coverage of the topic (and thus, a redesigned survey), and a desire for a more streamlined administration via the Web. The Provost's Advisory Committee on Housing recognized a need to understand *faculty* need and demand for housing and housing services, and the Committee recommended that a survey be undertaken in the spring of 2003 for the first time. Again, a decision was made to conduct the 2003 Faculty Housing and Transportation Survey via the Web.

Building a Survey Team

For the two original-design HRES survey projects, the members of the HRES Core Survey Team were charged with four tasks outlined in Table 3.

To supplement HRES's own expertise, several different types of consultants were retained to help with each survey (see Table 4). In addition, because the two HRES surveys were expected to have many and varied audiences for the results, a decision was made to establish

Table 3
Charge to Core Team Members

1. Identify areas of expertise needed to undertake the effort (both functional and topic specific)
2. Identify if there are survey synergies and multiple topics that can be combined to prevent over-surveying the population
3. Identify strengths and gaps across the internal resources
4. Determine if budget allows for external professionals

different internal survey teams and advisory groups to secure buy-in to the survey effort from various levels within the university. For example, the Advisory Committee for the Faculty Survey was explicitly established to help the survey effort in that each member could be a spokesperson within his or her department or school to other administrators and faculty. In addition, the establishment of a committee would help get the attention of the top decision-makers. The Advisory Committee was also helpful in reviewing wording that needed to be precise and appropriate for the respondent community (in particular, acronyms and building, place, and office nicknames).

Harvard Real Estate Services Faculty Survey project ultimately included four teams:

Table 4
2003 Harvard Faculty Housing and Transportation Survey Team

1. Core Team	The HRES staff; Office of Budgets, Financial Planning, and Institutional Research staff
2. Outside Consultant Team	Survey research specialist; architectural consultant; information technology consultant
3. Internal Advisors	Faculty members with area expertise or methodological expertise; Office of Instructional Research and Evaluation; Office of Budgets, Financial Planning and Institutional Research
4. Advisory Committee	Deans or directors representing each of Harvard's 10 schools

Table 5
Roles and Responsibilities of Survey Team Members

1. Executive sponsor	Senior administrator (President/Provost, VP, Dean), often the person who signs the cover letters to participate in the survey
2. Project director	Head of the department/office charged with administering the survey
3. Project manager	Person with overall responsibility for the survey effort
4. Content specialists	Identify themes and topical areas, determine questions; liaise with Advisory Committee (see below)
5. Survey research expert	Overall knowledge of survey research, with special responsibility for appropriate question wording, survey design, and Web design. May be used to consult on all aspects of project including selection of appropriate survey population, and selection of Web programming or IT groups, or as a project manager.
6. IT specialists	Survey layout, HTML programming, manage other IT functions, e.g. host survey, create final database
7. Keeper of e-mail list	Knowledge of Human Resources or Registrar's databases, assembles e-mail list of survey population
8. Communications	Manage all communications between sponsoring administrator and target populations (e.g., launch letter, reminder letters, closing letters).
9. (Sales Manager)	(Note that some Web programming and IT groups follow a business model of organization by working through a sales manager who oversees many details but does not do the actual work. Your survey team may or may not have direct conversations with the actual programmer on your project.)

General Roles and Responsibilities of Survey Team Members

For any survey project, there are a number of survey functions that must be covered, and it is not uncommon for survey team members to have overlapping duties. With paper surveys, an institutional researcher might do all the work alone "from A to Z," including pre-survey tasks such as copying the survey instrument, stuffing and stamping, and walking it to the Post Office. By contrast, Web surveys involve tasks that require specialized skills and it is more likely that there would be at least two people involved — a survey research specialist and an information technology specialist.

Defining survey content. (Led by content specialist and survey researcher.) If the project involves an original survey, a large portion of the survey effort should be devoted to defining the survey content. Issues of policy-level importance to the university will likely inform the content. It is important to focus on the questions that your audiences need answers to in order to inform

decision-making; *questions should yield results that are useful, not simply interesting*. In addition, if you have multiple audiences for your survey, each with their own agenda, take care to combine only related topics into a single survey at the risk of frustrating your respondent population.

Some tips for defining survey content are in Table 6 on page 4. (Tips for programming Web survey questionnaires are found in Questionnaire Design.)

Choosing Web Surveys over Paper Surveys

Although this paper presumes that you made the decision to use a Web survey, it is helpful to be able to defend this decision. At some universities, students, staff and faculty expect campus communication to take place via the Web, and survey respondents appreciate the convenience of Web surveys. However, there are certain populations and scenarios where Web surveys may not be the best option. The advantages and disadvantages of web surveys are in Table 7 on page 4.

Table 6
Tips on Defining Survey Content

1. Identify overarching themes that are of importance to the executive sponsor and other internal decision-makers. Seek early and timely confirmation/approval from the survey sponsor and other decision-makers.
2. Use focus groups or interviews with members of target population to confirm themes and test sensitivities, if necessary.
3. Write questions using the assistance of topical experts to be sure that questions will yield meaningful results that will inform policy setting, changes to business practice, etc. Avoid jargon, shorthand, and technical terms unless you are certain this language will make sense to everyone.
4. "Paper test" questions with members of target audience to be sure that they (a) make sense to representatives of target audience and will be answered in the intended manner; (b) do not offend, if the topic is sensitive; (c) wording is appropriate for the times and the culture (e.g., 'Black' vs. 'African-American'); (d) fixed-response questions include all the relevant options; (e) survey time does not exceed your goal length. (See Pre-Testing)
5. Revise questions as appropriate. Whittle down questions to meet goals related to survey length.
6. Provide questions with programming and design annotation (instructions about type of question, skip patterns, layout, etc.) to IT liaison for programming.
7. Prepare the survey designer and the Web programmer from the very beginning that the survey might need a last-minute sign-off from a high-level administrator. Consequently, last minute changes may be involved, both big and small.

Selection of Survey Population

As anyone who has ever done government reporting, created a university factbook, or responded to a data request on population numbers knows, there is more than one way to define a population of students, faculty, alumni, parents, and staff. It is, of course, important to get the survey to the correct people, but it is also important to be able to document and, possibly, replicate the population selection in order to calculate the survey response rate. Often, an HR or IT person who is unfamiliar with the survey goals is the one who works with the administrative database to select the population and creates the e-mail list. Build the survey in a way to double-check the population selection; for example, you might summarize the background data of the population

Table 7
Advantages and Disadvantages of Web Surveys

Advantages
1. Savings in printing, postage, data entry.
2. No data entry errors from hand-entry. (However, poor programming could lead to lost data.)
3. Shortened timeframe to administer surveys (3 weeks with Web surveys, vs. 6 weeks or more with paper surveys).
4. Easier and cleaner to provide skip patterns or survey sections customized to different respondent populations.
5. Almost immediate access to data for analysis.
6. Can easily link to background data, if appropriate (e.g., gender, grades, rank).
Disadvantages
7. Need programming and IT expertise.
8. Certain populations are not comfortable with using personal computers (senior faculty). (Note: at many campuses, this is becoming less of a problem.)
9. Must have accurate e-mail lists (e.g., a potential problem with students who use Hotmail or AOL accounts instead of school e-mail accounts, or with parents or alumni who have not provided their e-mail addresses). (Note: this is becoming less of a problem with many university populations, but could still be a problem in specific groups, for example, with part-time students.)
10. Web surveys are not recommended for e-mail software that doesn't support Web access. Must be able to click on a URL provided in an e-mail and to have it bring respondent to a Web page. PINE is an example of unacceptable e-mail software.
11. Software must be appropriate for both PCs and Macs.
12. Data provided via a Web survey are not <i>anonymous</i> , although the survey administrators may choose to keep the results <i>confidential</i> .

and compare it to a factbook table, or search the database to make sure that people in a specific category are excluded. Here are five population selection pitfalls we encountered:

1. Be careful to exclude the non-resident population if inappropriate for survey goals (e.g., overseas students, faculty on sabbatical). Example: if you are designing questions that get at current satisfaction with or use of local resources, stick to the "on campus" population. Note that a university e-mail address can mask the fact that the recipient is at a remote location, so it might be helpful to also screen by mailing address.

2. For a survey of parents, you must decide if you will survey divorced parents separately, or only one parent per student.
3. Will the list of respondents change during the lifespan of the survey (e.g., any student enrolled in a class throughout the term, vs. all students enrolled in a class as of the opening day of class), or even from the time you select the population to the beginning of the survey? For example, if you intended to survey all students, might late-enrolling students be coming to you to complain that they were excluded from the survey?
4. Select on the proper variable to define your population. In one project with which we are familiar, a university variable that was thought to distinguish Ph.D.s from other degree-seeking students was used, only to learn that this variable was not valid for one of the university schools. Thus, in that school, M.A. students were inadvertently surveyed along with Ph.D. students.
5. It is important to provide a background dataset with IDs and demographic information on all recipients for response-rate analysis, analysis of representativeness of the respondent population, and any merging of survey responses with background data. Keep this file for reference.

Designing a Web Survey

Questionnaire Design

The presiding rule of questionnaire design is to make it simple for the respondent to complete. The questionnaire should be “eye candy”—pleasing to look at, clear in

Table 8
Tips on Web Questionnaire Design

1. Keep survey length to something that can be done in 25 minutes or less. This is the ideal, though it is not always possible.
2. Manage the respondents' expectations of survey length with a counter or progress bar which tells them where they are in the survey, e.g., Page 1 of 5, Page 5 of 5.
3. No matter what the length, some respondents will not complete the survey. In our experience, this appears to be a problem of greater magnitude with Web surveys than for paper surveys. Be careful of the order of your sections; we do not recommend including crucial questions, such as demographic questions, or an overall evaluation question, in the final sections of the survey. (We search for ways to insert crucial questions closer to the middle of the survey because it is not usually appropriate to ask in the beginning.)
4. The less clicking and typing for the respondent, the better. We have some evidence that respondents tend to skip over drop-down questions and write-ins for short-answer questions such as age or gender. Provide all options with radio buttons, in double columns, if necessary, if you don't want the question to take up too much room on the screen.
5. Another reason to avoid write-ins for short answers is that respondents will rarely type their short answers the same way, which will involve a great deal of hand recoding at the analysis end. Example: Gender _____, vs. (better) Gender <input type="checkbox"/> Male <input type="checkbox"/> Female
6. Although we prefer to display all options on the screen and not use drop-down boxes, there may be situations where you prefer to use a drop-down box for a long list of options. (For example, towns, states, occupations.) If you use a drop-down box, be sure that the default which appears on the screen is something like "Click Here" and not a valid survey response such as "Boston," or "Strongly Disagree." You don't want the respondent's choice to be unnecessarily influenced by what they see on the screen. In addition, careless programming could turn a non-response into the default response.
7. Use a delicate hand with color and only use color to help your respondent navigate the survey. For example, every other line in a long grid of questions can be shaded, and section headers or header and footers can be in a different color than the questions. Be aware that unusual colors might not appear the same to all end-users because of 1) the color palate of the end-user's computer, and/or 2) possible color-blindness.
8. Restrain the inclination to use images. Graphics distract from the most important part of the questionnaire--the text. In addition, a file with images might load slowly.
9. At least one general comment question at the end of the survey is useful--it provides good quotes to accompany the survey data analysis. In addition, it makes respondents feel that their opinions are valued.
10. Each page should have a small distinctive logo/header on the top or bottom. A "help" e-mail or phone number should also be prominently displayed. Be careful, that the header/footer does not take up too much of the viewing page.

layout and meaning, flowing in structure, easy to complete. No incentive is high enough to induce respondents to waste their time on a confusing and frustrating questionnaire! There has been a lot written over the years on tips for paper questionnaire design, and many of these rules still apply for a Web questionnaire.

However, designing a questionnaire for the Web has some additional and unique challenges. For one thing, everything is bigger and closer on the Web. Things that are out of line look particularly jarring, and font and color clashes are right there to confront the respondent. A growing body of literature points to the variation in responses that result from different visual layouts for otherwise similar questions. Dillman, et al. (2005) writes about the use of multi-media effects in Web surveys, the lack of context in not seeing the entire survey or being able to flip backward and forward through the instrument, and the sophisticated possibilities for branching in Web surveys. (Also see Couper, M.P., et al., 2005.) We

recommend familiarizing yourself with the new research literature and making strong use of pre-testing to see where you need to make questionnaire design adaptations for the Web context.

In addition, the famous information design specialist Edward Tufte points out that, contrary to what one might think, a much smaller amount of information can be displayed on a Web screen compared to a piece of paper. Keep in mind that because of all the headers and footers provided by Windows applications, sometimes as little as one-third of the screen might have your questionnaire on it.

Choosing HTML Software and Format

We have been involved in Web projects that rely on many kinds of software to program the HTML, for example, Macromedia's ColdFusion and Dreamweaver, SurveyMonkey, or Websurveyor®. Each program has its own complexities, and can be adequately customized if

Table 9
Thoughts about Software

<p>1. Own programming vs. canned packages. Each canned package has some sort of limitation - some that will jeopardize the integrity of the responses, and some that will affect the graphic look of the design.</p> <p>Example 1) Once a question is answered, respondent can't erase responses to a question entirely, although he/she can change responses. To avoid this, provide a "not applicable" or some such response so that respondents can decide NOT to respond at all after initially giving an answer.</p> <p>Example 2) Might be initially difficult to evenly space a grid horizontally, or control hanging indents.</p>
<p>2. Test the time it takes for each survey page to load (especially if using images); keep it short. Test using both a high-speed line and a dial-up line.</p>
<p>3. Check to be sure survey works on both Macs and PCs.</p>
<p>4. Determine which browsers are optimal, including which version of the browser, and give this info to respondent in the cover page (i.e., Netscape 8.0, Internet Explorer 6.0). Provide respondent with the link to download current software, if necessary. Optimally, the survey should work on all current popular browsers. As some respondents may be using older browser versions, it may be necessary to list the browser versions that are best in the cover page (e.g., 'Internet Explorer 6.0; Firefox 1.5.x')</p>
<p>5. Output of data:</p> <ul style="list-style-type: none"> • Data must be exportable to an SPSS datafile or other statistical software, Access, a comma or semi-colon delimited data file, or a .csv file. • Excel is not recommended because of size limitations for both the dataset and for individual text cells, but Excel is acceptable if there are a small number of respondents, the survey is short in length, and there are no lengthy comment fields. • Comments (longer essay questions) work well in Access (using memo fields), or Word, and should be associated with an ID field in order to link with background and other survey data.

the programmer is willing to take the time. Now is the time to start thinking about the important fact that a programmer is generally just a programmer, not a survey research and questionnaire design specialist or a graphic designer. No software will get you what you need if the survey researcher doesn't take the time to work closely with the programmer. For example, you can't assume that the programmer and survey researcher speak the same language with regards to coding, layout, or output format. More will be discussed on this in the next section.

Technical Issues of Turning a Survey Questionnaire into a Web Survey

If you are doing the programming yourself, start by reviewing the basics of questionnaire design. (Dillman's book, *Mail and Internet Surveys: The Tailored Design Method*, is still the "bible.") Then seek any help you might need on graphic design for the Web from a webmaster or someone in a publications or graphic design department. Think carefully about how you will analyze the questions at the end to help you program the skip patterns correctly.

In the previous section, we mentioned that the programmer and survey researcher/data analyst don't necessarily share an understanding of data technicalities. After all, the programmer's job ends when the survey administration is completed; this is when the analyst's job begins. As an example, in one project the survey researcher indicated very specifically that dichotomous variables were to be coded as 1=yes, and 2=no (wanting to avoid a situation where the programmer used 1=yes and assigned "no" to blank). The programmer used dichotomous codes, but relied on a programmer's default of 1=yes and 0=no (and didn't change the codebook!). This problem may have been avoided if the researcher had thought like a programmer as in our experience, it is more difficult for a programmer to think like a data analyst.

In several projects, we have seen problems at the analytic stage with a question that involves a skip pattern followed by a "mark all that apply" type variable.

If Q.2.a. or Q.2.b. weren't marked, the programmer assigned their values as blank, and, thus, their responses

could not be distinguished from those who were guided to skip the question; the analyst will need to do some post-survey programming to analyze this correctly. However, another option is to change the question format of Q.2. from multiple-select to single-select. Now each person completing this section will have a response to each variable (no or yes), while persons skipping both Q.2.a. and Q.2.b. will be assigned to blank or missing for each variable, or, better yet, to a distinct code such as 99.

Example:

1. Do you have children living with you?
 Yes No (skip to Q.3.)

2. Do you have any children living with you in any of these age categories?
 a. Infant to 4 years No Yes
 b. 5 to 9 years (etc.) No Yes

Here are some general technical issues to consider:

1. You must decide if the respondents will be required to respond to any or all of the questions. Requiring anyone to respond to the survey as a whole as well as individual questions often does not fit with the university's ethos. It also might conflict with instructions you receive from your Human Subjects Review Committee. (See Privacy Issues, page 8) In addition, with certain populations, it could simply annoy the respondents. However, a required response might be necessary for proper coding of skip patterns.
2. Create the survey as multiple pages with a submit button at the end of each section, and not as one long page. This helps the respondent easily navigate through the survey. In addition, each individual page can be submitted (and captured) when completed, which will prevent the loss of data if the respondent doesn't finish the entire survey or if the system crashes.
3. You must decide if respondents will be able to exit and re-enter the survey, and if yes, whether or not they will be able to change any or all of their responses. If the survey is created as multiple pages (as described above), one method might be to allow the respondents to re-enter the survey at the last unfinished page, and allow them to enter and change their responses going forward (but not the pages already submitted). Be sure the respondents know whether they can exit and re-enter the survey.

Example:

1. Do you have children living with you?
 Yes No (skip to Q.3.)

2. Please mark all the age categories in which you have children living with you?
 a. Infant to 4 years
 b. 5 to 9 years (etc.)

4. Pre-determine the target population's technical knowledge about the survey subject. You might want to consider providing a pop-up glossary of terms that opens in a new window.

Example: "What percentage of your monthly after-tax budget do you spend on your housing?" [Pop-up definition: "Monthly After-Tax Budget: all monies available to you to spend on housing, food, books, insurance, social activities, health, clothing, etc."]

5. Select a graphic design template that is emblematic of survey sponsor's image or the image of the college or university.
 - Choose a distinctive color scheme and appropriate fonts for headers and question text. Get help from a professional graphic designer, if necessary.
 - Consider shading alternate rows in big grids of questions.
 - Web pages should have margins on all sides to make the page readable.
6. Take time to be sure the programmer understands the questionnaire in order to program skip patterns correctly. In addition, make sure the programmer understands the different types of questions. (See codebook example, Table 10.)
7. Create the survey as multiple pages, and not as one long page. This helps the respondent navigate through the survey more easily. In addition, each individual page can be submitted (and captured) when completed, which will prevent the loss of data if the respondent doesn't finish the entire survey if the system crashes.
8. The survey designer should provide a codebook or data dictionary of survey questions and possible responses for programmer to work with. (See Table 10.)
9. Obtain or create a print copy of the final Web survey for inclusion in a survey report and for historical record. It may be especially important to get a paper copy if the survey resides on a server that is not under the control of the survey group (e.g., another university office, an outside consultant).

Note that Web software packages generally do not provide a pretty print copy—what looks fine on the Web may not print well in hard copy. Although time-consuming, we find that it works well to copy each question, one at a time, from the Web browser, and paste it into a blank Word document with your desired header and footer. Then adjust the formatting accordingly—line and column widths, borders, disabling all macros that are pasted in, and deleting extraneous characters that were created by macro functions.

Here is an example of a fully-documented codebook.

Table 10
Example of Codebook, and Different Types of Survey Questions

Q1. Who owns your housing? (*Single select question. Option codes: 1,2, blank.*)
 Harvard owned
 Privately owned (*Skip to Q4.*)

What resources did you use to find your current housing? (Check all that apply.) (*Multiple select question. For each response, option codes 0,1, 99 (intentionally skipped)*)

Q2a. Residence Halls application (*Skip to Q5.*)

Q2b. Harvard Housing Office (*Skip to Q5.*)

Q2c. Other (*Continue with Q3.*)

Q3. If you selected 'Other,' please specify: (*Text response question.*)

Administering the Web Survey

Technical Issues of Administering the Web Survey

There are many small, but important, decisions to be made about how to administer the survey. It is important that these decisions be tailored to the culture and style of your university, or to the standards of your office. Remember that your ethos should guide your systems; don't let your system defaults force you to change your standards!

Pre-Testing

Pre-testing takes time, but it is an important step. It's akin to always asking for references—even if you have never had any problems, you know that it's inevitable that you will some day if you don't ask for them. Similarly, you should always have someone from the population you are surveying look at the questionnaire with fresh eyes and provide comments.

Privacy Issues

There are two sides to the privacy issues. The biggest privacy issue is vis a vis the respondents. Every school has a Human Subjects Review Committee/Institutional Review Board (IRB) set up to review all types of projects involving human subjects. Human Subjects Review is very prominent for projects and experiments conducted by a Medical School or department of Psychology. In our experience, many schools, exempt administrative surveys from Human Subjects Review. It is important to determine the position of your specific IRB. We found the Harvard

Table 11
Administering the Web Survey

<p>1. What is the desired timeline for the survey? We have found that 3 weeks is about right, with e-mails sent 4 days to 1 week apart. We adjust the timeline based upon the response rate. If the response is flagging, we might send a reminder e-mail one day earlier than originally scheduled.</p>
<p>2. How many contacts? We have been contacting the respondent 3 to 4 times: (if needed as justification for the survey) a pre-letter from a top administrator (President/Provost, VP, Dean); a launch letter with the .survey URL; a follow-up e-mail only to those who have not responded which also announces the end of the survey a few days hence; a thank-you letter that goes to all respondents.</p>
<p>3. Detail on suggested e-mail contacts:</p> <ul style="list-style-type: none"> • Optional pre-survey notification letter from top administrator to notify the population that the survey is coming and why it is important to the university. • Launch letter/email containing the survey link and contact e-mail and contact name in the event that a recipient has questions/comments. • Pre-assigned unique URL allows survey team to send 1 or 2 follow-ups to only non-respondents. Sending reminder letters to people who completed the survey will only cause frustration, confusion, and a slew of e-mails to project manager. The logon process can be used to select those who need reminders. • 2nd follow-up could also be a notification of closing letter: "The survey will be closing on May 6th at 5.00 p.m." • Thank you e-mail goes to all respondents. Include information on response rate or something learned from the survey, if desired. • Place "survey is closed" page at the survey address for latecomers to see.
<p>5. Choose an appropriate subject line for all e-mail communications. We have used:</p> <ul style="list-style-type: none"> • A message from Provost Smith • A reminder from Provost Smith <p>Be aware that some subject lines with valid meanings may be identified by certain browsers as junk mail, e.g., 'Congratulations,' or 'Confidential.'</p>
<p>6. How will respondents enter into the survey? We have used two methods: a login via PIN authentication, and unique URLs for each respondent.</p>
<p>7. Proper programming is needed to ensure that one person submits only one survey.</p>
<p>8. What constitutes a completed survey?</p> <ul style="list-style-type: none"> • Suggestion: in a multi-page formatted survey, after completing each page, have a click button that submits this page. (Could have 2 buttons, 'Save and logout' and 'Continue to next page') If re-entering the survey, enter at beginning of first uncompleted page (entry on that page not saved). • Who should receive reminders to complete the survey? We suggest all respondents who have not submitted the final page of the survey. • Output data can capture all records, including those with only partial data, or only completed records. We prefer to capture output data from all who have entered the survey. Although some records will be incomplete, we believe they contain valuable responses to a portion of the questions.
<p>9. How are respondents required to navigate the survey? We use the fixed order of pages method - respondents can jump around on a particular page, but must do page 1 and submit it before going to page 2.</p>
<p>10. Time of day to send e-mails:</p> <ul style="list-style-type: none"> • Evening often works well when respondents are done with the business of the day and ready to relax and look at non-work e-mails. • If IT folks send the e-mails, it will depend on their schedules and the acceptable number of e-mails they can send at one time. The server must have the resources to temporarily store all of the emails until the respondents download them, and to do both the task of sending out these emails and other server chores. If not, it may be necessary to send out the survey in small batches.
<p>11. Day of week to send e-mails:</p> <ul style="list-style-type: none"> • Differs from survey wisdom learned from paper surveys. • It is acceptable to have Web surveys arrive at any day of the week, including weekends.
<p>12. It is important to monitor the response rate while the survey is live. Use the time-date stamp that comes with each response to analyze the data, for example, responses by School and Faculty Rank. This should be used to:</p> <ul style="list-style-type: none"> • help target dates for reminders • change or customize the reminder text • catalog for future projects the days and times that your survey population prefers to respond to surveys • manage the expectations of top administrators as to how many days it will take to administer the survey and the eventual anticipated response rate.

**Table 12
Pre-Testing**

1. Paper testing. When the survey is still in the paper-stage, ask individuals or assemble a group of respondents to look for terms that they do not understand, confusing question wording, and obvious questions omitted from the survey. Be attentive to their comments, but remember that they are only a small group of people; your overall sense of the survey structure should predominate.
2. Before the Web survey is finalized, have individuals take the survey using a variety of different computer systems, e.g., Macs, PCs, dial-up and high-speed connections, and with different browsers. All should test whether the survey flows properly, whether there are any problems with navigating from page to page, with pop-up glossary boxes, or with incorrect skip patterns.
3. Save the responses from the Web testers and create a test output dataset to test the integrity of the responses and if there is a need for any custom programming (e.g., variable names or value labels that are only assigned at the output state, custom value codes assigned to skipped items). Run frequencies to make sure that the output coding is as requested. Be sure to exclude any pre-test response cases from your final operational dataset.
4. Remind the Web programmer regularly that there may be some last minute changes based on feedback from pre-testing.

IRB very helpful for determining the appropriate language to be used in e-mail communications.

The second privacy issue is for consultants you might use. It is important to have a clear agreement regarding the capture, storage, and destruction of the survey data with any survey research or Web-programming consultants. Some schools also require survey research consultants to have Human Subjects Review Certification. (This can be done over the Web at the National Institute of Health Web site ⁴.)

It is also important to clarify Web-programming company policies on whether or not they append advertising for their product to your survey.

For privacy purposes, all survey data should be stored on a secure server.

Survey Incentives

With a paper survey, the administrator can include an actual object in the mailing. Fairly recently, in the commercial world, the “going rate” was still \$1 or \$5. Dillman always stressed that pre-payment was more powerful than post-payment (after completing the survey). However, we are not aware of pre-payment as a norm for university surveys.

A number of schools we are familiar with received good boosts in survey response from offering creative and desirable gift incentives. A clever way to combine an incentive to complete the survey with an incentive to respond quickly is to have those who complete the survey early entered multiple times into a lottery. The introduction could say something like:

**Table 13
Privacy Issues: A Harvard Example ***

1. Survey was deemed exempt by the Harvard Institutional Review Board (IRB) because the survey did not meet the Federal definition of research; the survey was not "a systematic investigation designed to contribute to 'generalizable' knowledge," as the results were being used for in-house planning.
2. The Harvard attorneys thought that it was unnecessary to include consent language for the recipients; login was considered consent.
3. The attorneys also recommended including language to assure respondents that their responses would not be personally identified with them other than to the survey research analyst, (i.e., anonymous).
4. Results will be aggregated for the University report - no individual data will be released, (i.e., confidential).
5. Any comments made by respondents that include either the name of the respondent or the names of university personnel should have the names removed before being circulated.
* Seek specific advice from your university attorneys or IRB.

Complete the survey by Tuesday and be entered into the gift lottery 10 times!

Complete the survey by Thursday and be entered into the gift lottery 5 times!

This technique has been used with student surveys and alumni surveys. It does not seem particularly appropriate for a survey of the faculty or parent population. Let the culture of your school be your guide as to when incentives are and are not appropriate.

One caveat: One research study on incentive usage showed that although there was a significant difference in response rates when an incentive was offered, in fact, the response rate difference was minimal and was a small impact on the substantive findings. This brings up the question as to whether time and money should be spent on awarding prizes, or on other efforts to improve response rates. (Porter and Whitcomb, 2004.) (Note: this research study used a survey in which participants had little personal reason in which to participate; findings may be different for a more cogent popular topic.)

**Table 14
Incentives**

1. Be mindful of your school's policies on gifts and imputed income. At Harvard, cash gifts are not allowed and gift certificates are discouraged for students and not allowed for employees. Check if there is an upper limit on the value of a gift beyond which it is considered taxable income, as this could be a problem for students. There may also be separate rules regarding gifts to students who are on the school's payroll.
2. Small gifts should be considered a thank-you, but not truly an incentive (e.g., a coupon for free coffee and muffin).
3. Use a lottery to draw prizes.
4. Make sure your gift is something that will attract your respondents. In 2005, for example, a portable CD player had little draw value while an iPod had greater value. Next year, it is likely that there will be a new and different electronic device that will be the obvious and appropriate incentive.
5. Two suggested ways to offer gift incentives: • Offer a significant number of opportunities to win good-value gifts (e.g., 40 gifts valued at \$20-\$40 each). • Offer one large grand prize such as a travel certificate, a few moderate-priced gifts (university chairs are nice for parents or alumni), and a market basket of very small gifts.
6. Mail gifts to recipients, if possible. Requiring the gifts to be picked up can take a surprisingly large amount of coordination and staff time.

Communication and Technical Support

Hopefully, if something goes wrong with the survey administration, it will be something technical that you can control and correct.

1. Here is a short laundry list of things that could go wrong:
 - the links don't work
 - the recipient does not know how to download needed software
 - there are server problems when sending out too many bulk e-mails at once; (possible solution: send e-mails in waves)
 - the server could crash while the respondent is logged in
 - the respondent's computer doesn't have enough memory to load survey
 - the survey looks out of alignment on respondent's computer.
 - the large numbers of e-mails sent to non-university e-mail addresses could be blocked by the recipients' internet service providers; (same solution as above: send e-mails out in waves)

2. The survey instrument should prominently display the phone number and/or e-mail address of a technical contact person for respondents who encounter problems with Web administration. Respond promptly to every inquiry. Rule of thumb: respond to every query within 1 business day, if not sooner. The technical support person should document the problems and summarize for the project manager.

3. Some respondents will write personal notes about the survey content to the technical contact. These comments should be forwarded to the project manager to be read.

4. Surveys sent to incorrect or outdated e-mail addresses will be returned. The technical support person should catalog this because it affects the calculation of the response rate.

Output of Survey Data

If the programming was done correctly (skips and assignment of missing values), this step is almost a non-step. One of the great advantages of Web surveys is immediate access to a final (or even interim) dataset. In Section II.8. we talked about the importance of the survey researcher and programmer speaking the same language. Here's another example: be sure to explicitly tell the programmer that you want data values output as numeric and not as text (i.e., '1-2-3,' and not 'Always - Sometimes

- Never'); there is a choice of output format in many programs.

Reportage

Don't let anyone tell you that all they need are the frequencies and that no report is necessary! The frequencies and means are still just data, and not yet useful *information*. Here are some suggestions for ways to develop your analysis and make your project results useful now and in the future.

Table 15

Questions about Survey Analysis, and Reportage

1. Create a full set of frequencies and crosstabs as a paper appendix for posterity's sake. Paper is still more portable than a datafile between offices and over time.
2. A dataset is like a fingerprint--no two analysts will label, recode, and refine the dataset in the same way. Keep (and share!) documentation, e.g., calculating a mean of hours per week, where the top category, 20 +, is recoded as 22/hours per week.
3. A decision should be made as to whether other university personnel will have access to the dataset to pursue analyses related to the project, or even unrelated goals. If you have developed recodes or created new variables crucial to the analysis, be sure to document this so that your analyses aren't questioned when others cannot duplicate them.
4. It is true that a picture is worth 1,000 words. Take the time to become an expert designer of charts and tables.
5. All your survey results will appeal to your direct clients, those who initiated the project. Small parts of the survey will appeal to other university offices that may or may not be one of the original intended audiences. Be creative about who might be interested in which pieces of data.
6. Some of the audiences for the Harvard Faculty Survey were: <ul style="list-style-type: none"> • Harvard Real Estate Services • President's Office • Vice Presidents of Administration and Finance • Office of the Provost • Deans of Faculty Affairs and Student Life (for each school) • Harvard Mortgage and Educational Loan Office • Harvard Transportation and Commuter Services

End Note

Dillman describes a successful survey in the context of social exchange theory as a trusting relationship between surveyor and respondent where the ultimate rewards of the survey outweigh the costs of responding (Dillman, 2000, p.14-24). Through excellent survey design and a smooth (Web) administration, we act to reduce the survey cost to the respondents by making it easy and, hopefully, interesting, for them to participate. In each

project, we received at least one response that says, "thank you for asking." We learned that a positive encounter with respondents from the school community is, in itself, a desirable outcome of the survey project, in addition to providing information needed for decision-making.

Endnotes

- ¹ Formerly of Harvard Planning and Allston Initiative
- ² Formerly of Harvard Office of Instructional Research and Evaluation, Faculty of Arts and Sciences
- ³ For a review of many of the methodological issues in survey design that were considered with one of the Harvard surveys, as well as a copy of the 2001 Harvard Graduate Student Survey on Housing and Transportation, see Harvard Business School Case 9-505-059: Wathieu, Luc, The Harvard Graduate Student Housing Survey, (<http://www.hbsp.harvard.edu>)
- ⁴ As of November 2006, <http://206.102.88.10/nihtraining/ohrsite/cbt/cbt.html>.

References

- Couper, M.P., Conrad, F.G., & Tourangeau, R. (2005). Visual Context Effects in Web Surveys, The American Association for Public Opinion Research (AAPOR) 60th Annual Conference.
- Dillman, D.A. (2000). *Mail and Internet Surveys: The Tailored Design Method*, second edition. John Wiley and Sons, New York.
- Dillman, D.A., & Christian, L. M. (2005). Survey mode as a source of instability in responses across surveys," *Field Methods*, 17, 1, pp. 30-52. SAGE Journals Online (<http://online.sagepub.com/>)
- Porter, S., & Whitcomb, M. (2004). Understanding the effect of prizes on response rates, overcoming survey research problems, *New Directions for Institutional Research*, No. 121, pp. 51-62.
- Porter, S. (2004). Pros and cons of paper and electronic surveys, overcoming survey research problems, *New Directions for Institutional Research*, No. 121, pp.91-99.
- Tufte, E. (1983). *The Visual Display of Quantitative Information*. Graphics Press, Cheshire, Connecticut.
- Wathieu, L. (2005). *The Harvard Graduate Student Housing Survey*. Harvard Business School Case Study 9-505-059, Cambridge, Massachusetts (<http://www.hbsp.harvard.edu>).

For questions or additional information, please contact Rena Cheskis-Gold, www.demographicperspectives.com, (203) 397-1612.

THE AIR PROFESSIONAL FILE—1978-2006

A list of titles for the issues printed to date follows. Most issues are "out of print," but microfiche or photocopies are available through ERIC. Photocopies are also available from the AIR Executive Office, 222 Stone Building, Florida State University, Tallahassee, FL 32306-4462, \$3.00 each, prepaid, which covers the costs of postage and handling. Please do not contact the editor for reprints of previously published Professional File issues.

- Organizing for Institutional Research* (J.W. Ridge; 6 pp; No. 1)
Dealing with Information Systems: The Institutional Researcher's Problems and Prospects (L.E. Saunders; 4 pp; No. 2)
Formula Budgeting and the Financing of Public Higher Education: Panacea or Nemesis for the 1980s? (F.M. Gross; 6 pp; No. 3)
Methodology and Limitations of Ohio Enrollment Projections (G.A. Kraetsch; 8 pp; No. 4)
Conducting Data Exchange Programs (A.M. Bloom & J.A. Montgomery; 4 pp; No. 5)
Choosing a Computer Language for Institutional Research (D. Strenglein; 4 pp; No. 6)
Cost Studies in Higher Education (S.R. Hample; 4 pp; No. 7)
Institutional Research and External Agency Reporting Responsibility (G. Davis; 4 pp; No. 8)
Coping with Curricular Change in Academe (G.S. Melchiori; 4 pp; No. 9)
Computing and Office Automation—Changing Variables (E.M. Staman; 6 pp; No. 10)
Resource Allocation in U.K. Universities (B.J.R. Taylor; 8 pp; No. 11)
Career Development in Institutional Research (M.D. Johnson; 5 pp; No. 12)
The Institutional Research Director: Professional Development and Career Path (W.P. Fenstermacher; 6pp; No. 13)
A Methodological Approach to Selective Cutbacks (C.A. Belanger & L. Tremblay; 7 pp; No. 14)
Effective Use of Models in the Decision Process: Theory Grounded in Three Case Studies (M. Mayo & R.E. Kallio; 8 pp; No. 15)
Triage and the Art of Institutional Research (D.M. Norris; 6 pp; No. 16)
The Use of Computational Diagrams and Nomograms in Higher Education (R.K. Brandenburg & W.A. Simpson; 8 pp; No. 17)
Decision Support Systems for Academic Administration (L.J. Moore & A.G. Greenwood; 9 pp; No. 18)
The Cost Basis for Resource Allocation for Sandwich Courses (B.J.R. Taylor; 7 pp; No. 19)
Assessing Faculty Salary Equity (C.A. Allard; 7 pp; No. 20)
Effective Writing: Go Tell It on the Mountain (C.W. Ruggiero, C.F. Elton, C.J. Mullins & J.G. Smoot; 7 pp; No. 21)
Preparing for Self-Study (F.C. Johnson & M.E. Christal; 7 pp; No. 22)
Concepts of Cost and Cost Analysis for Higher Education (P. T. Brinkman & R.H. Allen; 8 pp; No. 23)
The Calculation and Presentation of Management Information from Comparative Budget Analysis (B.J.R. Taylor; 10 pp; No. 24)
The Anatomy of an Academic Program Review (R.L. Harpel; 6 pp; No. 25)
The Role of Program Review in Strategic Planning (R.J. Barak; 7 pp; No. 26)
The Adult Learner: Four Aspects (Ed. J.A. Lucas; 7 pp; No. 27)
Building a Student Flow Model (W.A. Simpson; 7 pp; No. 28)
Evaluating Remedial Education Programs (T.H. Bers; 8 pp; No. 29)
Developing a Faculty Information System at Carnegie Mellon University (D.L. Gibson & C. Golden; 7 pp; No. 30)
Designing an Information Center: An Analysis of Markets and Delivery Systems (R. Matross; 7 pp; No. 31)
Linking Learning Style Theory with Retention Research: The TRAILS Project (D.H. Kalsbeek; 7 pp; No. 32)
Data Integrity: Why Aren't the Data Accurate? (F.J. Gose; 7 pp; No. 33)
Electronic Mail and Networks: New Tools for Institutional Research and University Planning (D.A. Updegrave, J.A. Muffo & J.A. Dunn, Jr.; 7pp; No. 34)
Case Studies as a Supplement to Quantitative Research: Evaluation of an Intervention Program for High Risk Students (M. Peglow-Hoch & R.D. Walleri; 8 pp; No. 35)
Interpreting and Presenting Data to Management (C.A. Clagett; 5 pp; No. 36)
The Role of Institutional Research in Implementing Institutional Effectiveness or Outcomes Assessment (J.O. Nichols; 6 pp; No. 37)
Phenomenological Interviewing in the Conduct of Institutional Research: An Argument and an Illustration (L.C. Attinasi, Jr.; 8p p; No. 38)
Beginning to Understand Why Older Students Drop Out of College (C. Farabaugh-Dorkins; 12 pp; No. 39)
A Responsive High School Feedback System (P.B. DUBY; 8 pp; No. 40)
Listening to Your Alumni: One Way to Assess Academic Outcomes (J. Pettit; 12 pp; No. 41)
Accountability in Continuing Education Measuring Noncredit Student Outcomes (C.A. Clagett & D.D. McConochie; 6pp; No. 42)
Focus Group Interviews: Applications for Institutional Research (D.L. Brodigan; 6 pp; No. 43)
An Interactive Model for Studying Student Retention (R.H. Glover & J. Wilcox; 12 pp; No. 44)
Increasing Admitted Student Yield Using a Political Targeting Model and Discriminant Analysis: An Institutional Research Admissions Partnership (R.F. Urban; 6 pp; No. 45)
Using Total Quality to Better Manage an Institutional Research Office (M.A. Heverly; 6 pp; No. 46)
Critique of a Method For Surveying Employers (T. Banta, R.H. Phillippi & W. Lyons; 8 pp; No. 47)
Plan-Do-Check-Act and the Management of Institutional Research (G.W. McLaughlin & J.K. Snyder; 10 pp; No. 48)
Strategic Planning and Organizational Change: Implications for Institutional Researchers (K.A. Corak & D.P. Wharton; 10 pp; No. 49)
Academic and Librarian Faculty: Birds of a Different Feather in Compensation Policy? (M.E. Zeglen & E.J. Schmidt; 10 pp; No. 50)
Setting Up a Key Success Index Report: A How-To Manual (M.M. Sapp; 8 pp; No. 51)
Involving Faculty in the Assessment of General Education: A Case Study (D.G. Underwood & R.H. Nowaczyk; 6 pp; No. 52)

THE AIR PROFESSIONAL FILE—1978-2006

- Using a Total Quality Management Team to Improve Student Information Publications (J.L. Frost & G.L. Beach; 8 pp; No. 53)
- Evaluating the College Mission through Assessing Institutional Outcomes (C.J. Myers & P.J. Silvers; 9 pp; No. 54)
- Community College Students' Persistence and Goal Attainment: A Five-year Longitudinal Study (K.A. Conklin; 9 pp; No. 55)
- What Does an Academic Department Chairperson Need to Know Anyway? (M.K. Kinnick; 11 pp; No. 56)
- Cost of Living and Taxation Adjustments in Salary Comparisons (M.E. Zeglen & G. Tesfagiorgis; 14 pp; No. 57)
- The Virtual Office: An Organizational Paradigm for Institutional Research in the 90's (R. Matross; 8 pp; No. 58)
- Student Satisfaction Surveys: Measurement and Utilization Issues (L. Sanders & S. Chan; 9 pp; No. 59)
- The Error Of Our Ways; Using TQM Tactics to Combat Institutional Issues Research Bloopers (M.E. Zeglin; 18 pp; No. 60)
- How Enrollment Ends; Analyzing the Correlates of Student Graduation, Transfer, and Dropout with a Competing Risks Model (S.L. Ronco; 14 pp; No. 61)
- Setting a Census Date to Optimize Enrollment, Retention, and Tuition Revenue Projects (V. Borden, K. Burton, S. Keucher, F. Vossburg-Conaway; 12 pp; No. 62)
- Alternative Methods For Validating Admissions and Course Placement Criteria (J. Noble & R. Sawyer; 12 pp; No. 63)
- Admissions Standards for Undergraduate Transfer Students: A Policy Analysis (J. Saupe & S. Long; 12 pp; No. 64)
- IR for IR—Indispensable Resources for Institutional Researchers: An Analysis of AIR Publications Topics Since 1974 (J. Volkwein & V. Volkwein; 12 pp; No. 65)
- Progress Made on a Plan to Integrate Planning, Budgeting, Assessment and Quality Principles to Achieve Institutional Improvement (S. Griffith, S. Day, J. Scott, R. Smallwood; 12 pp; No. 66)
- The Local Economic Impact of Higher Education: An Overview of Methods and Practice (K. Stokes & P. Coomes; 16 pp; No. 67)
- Developmental Education Outcomes at Minnesota Community Colleges (C. Schoenecker, J. Evens & L. Bollman; 16 pp; No. 68)
- Studying Faculty Flows Using an Interactive Spreadsheet Model (W. Kelly; 16 pp; No. 69)
- Using the National Datasets for Faculty Studies (J. Milam; 20 pp; No. 70)
- Tracking Institutional leavers: An Application (S. DesJardins, H. Pontiff; 14 pp; No. 71)
- Predicting Freshman Success Based on High School Record and Other Measures (D. Eno, G. W. McLaughlin, P. Sheldon & P. Brozovsky; 12 pp; No. 72)
- A New Focus for Institutional Researchers: Developing and Using a Student Decision Support System (J. Frost, M. Wang & M. Dalrymple; 12 pp; No. 73)
- The Role of Academic Process in Student Achievement: An Application of Structural Equations Modeling and Cluster Analysis to Community College Longitudinal Data¹ (K. Boughan; 21 pp; No. 74)
- A Collaborative Role for Industry Assessing Student Learning (F. McMartin; 12 pp; No. 75)
- Efficiency and Effectiveness in Graduate Education: A Case Analysis (M. Kehrhahn, N.L. Travers & B.G. Sheckley; No. 76)
- ABCs of Higher Education-Getting Back to the Basics: An Activity-Based Costing Approach to Planning and Financial Decision Making (K. S. Cox, L. G. Smith & R.G. Downey; 12 pp; No. 77)
- Using Predictive Modeling to Target Student Recruitment: Theory and Practice (E. Thomas, G. Reznik & W. Dawes; 12 pp; No. 78)
- Assessing the Impact of Curricular and Instructional Reform - A Model for Examining Gateway Courses¹ (S.J. Andrade; 16 pp; No. 79)
- Surviving and Benefitting from an Institutional Research Program Review (W.E. Knight; 7 pp; No. 80)
- A Comment on Interpreting Odds-Ratios when Logistic Regression Coefficients are Negative (S.L. DesJardins; 7 pp; No. 81)
- Including Transfer-Out Behavior in Retention Models: Using NSC Enrollment Search Data (S.R. Porter; 16 pp; No. 82)
- Assessing the Performance of Public Research Universities Using NSF/NCES Data and Data Envelopment Analysis Technique (H. Zheng & A. Stewart; 24 pp; No. 83)
- Finding the 'Start Line' with an Institutional Effectiveness Inventory¹ (S. Ronco & S. Brown; 12 pp; No. 84)
- Toward a Comprehensive Model of Influences Upon Time to Bachelor's Degree Attainment (W. Knight; 18 pp; No. 85)
- Using Logistic Regression to Guide Enrollment Management at a Public Regional University (D. Berge & D. Hendel; 14 pp; No. 86)
- A Micro Economic Model to Assess the Economic Impact of Universities: A Case Example (R. Parsons & A. Griffiths; 24 pp; No. 87)
- Methodology for Developing an Institutional Data Warehouse (D. Wierschem, R. McBroom & J. McMillen; 12 pp; No. 88)
- The Role of Institutional Research in Space Planning (C.E. Watt, B.A. Johnston, R.E. Chrestman & T.B. Higerd; 10 pp; No. 89)
- What Works Best? Collecting Alumni Data with Multiple Technologies (S. R. Porter & P.D. Umback; 10 pp; No. 90)
- Caveat Emptor: Is There a Relationship between Part-Time Faculty Utilization and Student Learning Outcomes and Retention? (T. Schibik & C. Harrington; 10 pp; No. 91)
- Ridge Regression as an Alternative to Ordinary Least Squares: Improving Prediction Accuracy and the Interpretation of Beta Weights (D. A. Walker; 12 pp; No. 92)
- Cross-Validation of Persistence Models for Incoming Freshmen (M. T. Harmston; 14 pp; No. 93)
- Tracking Community College Transfers Using National Student Clearinghouse Data (R.M. Romano and M. Wisniewski; 14 pp; No. 94)
- Assessing Students' Perceptions of Campus Community: A Focus Group Approach (D.X. Cheng; 11 pp; No. 95)
- Expanding Students' Voice in Assessment through Senior Survey Research (A.M. Delaney; 20 pp; No. 96)
- Making Measurement Meaningful (Carpenter-Hubin, J. & Hornsby, E.E., 14 pp; No. 97)
- Strategies and Tools Used to Collect and Report Strategic Plan Data (Blankert, J., Lucas, C. & Frost, J.; 14 pp; No. 98)
- Factors Related to Persistence of Freshmen, Freshman Transfers, and Nonfreshman Transfer Students (Perkhounkova, Y, Noble, J & McLaughlin, G.; 12 pp; No. 99)
- Does it Matter Who's in the Classroom? Effect of Instructor Type on Student Retention, Achievement and Satisfaction (Ronco, S. & Cahill, J.; 16 pp; No. 100)
- Weighting Omissions and Best Practices When Using Large-Scale Data in Educational Research (Hahs-Vaughn, D.L.; 12 pp; No. 101)

The *AIR Professional File* is intended as a presentation of papers which synthesize and interpret issues, operations, and research of interest in the field of institutional research. Authors are responsible for material presented. The *File* is published by the Association for Institutional Research.

Editor:
Dr. Gerald W. McLaughlin
Director of Planning and
Institutional Research
DePaul University
1 East Jackson, Suite 1501
Chicago, IL 60604-2216
Phone: 312/362-8403
Fax: 312/362-5918
gmclaugh@depaul.edu

Associate Editor:
Ms. Debbie Dailey
Associate Director of Planning and
Institutional Research
Georgetown University
303 Maguire Hall, 37th & O St NW
Washington, DC 20057
Phone: 202/687-7717
Fax: 202/687-3935
daileyd@georgetown.edu

Managing Editor:
Dr. Terrence R. Russell
Executive Director
Association for Institutional Research
1435 E. Piedmont Drive
Suite 211
Tallahassee, FL 32308
Phone: 850/385-4155
Fax: 850/385-5180
air@airweb2.org

AIR Professional File Editorial Board

Dr. Trudy H. Bers
Senior Director of
Research, Curriculum
and Planning
Oakton Community College
Des Plaines, IL

Ms. Rebecca H. Brodigan
Director of
Institutional Research and Analysis
Middlebury College
Middlebury, VT

Dr. Harriott D. Calhoun
Director of
Institutional Research
Jefferson State Community College
Birmingham, AL

Dr. Stephen L. Chambers
Director of Institutional Research
and Assessment
Coconino Community College
Flagstaff, AZ

Dr. Anne Marie Delaney
Director of
Institutional Research
Babson College
Babson Park, MA

Dr. Gerald H. Gaither
Director of
Institutional Research
Prairie View A&M University
Prairie View, TX

Dr. Philip Garcia
Director of
Analytical Studies
California State University-Long Beach
Long Beach, CA

Dr. David Jamieson-Drake
Director of
Institutional Research
Duke University
Durham, NC

Dr. Anne Machung
Principal Policy Analyst
University of California
Oakland, CA

Dr. Marie Richman
Assistant Director of
Analytical Studies
University of California-Irvine
Irvine, CA

Dr. Jeffrey A. Seybert
Director of
Institutional Research
Johnson County Community College
Overland Park, KS

Dr. Bruce Szelest
Associate Director of
Institutional Research
SUNY-Albany
Albany, NY

Authors interested in having their manuscripts considered for the *Professional File* are encouraged to send four copies of each manuscript to the editor, Dr. Gerald McLaughlin. Manuscripts are accepted any time of the year as long as they are not under consideration at another journal or similar publication. The suggested maximum length of a manuscript is 5,000 words (approximately 20 double-spaced pages), including tables, charts and references. Please follow the style guidelines of the *Publications Manual of the American Psychological Association, 4th Edition*.
