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ABSTRACT

This study attempted to identify desirable mail questionnaire characteristics as perceived by those who conduct successful surveys (those with a high return rate) of teacher education program graduates. The data pool consisted of 80 questionnaires completed by individuals at teacher education institutions nationwide. Eighteen items were perceived as important for mail questionnaires used in follow-up surveys of graduates. The respondents' selections of important survey characteristics differed in some respects from the choices of experts and other experienced researchers. For example, the respondents were more inclined to place general directions on the questionnaire rather than in a separate cover letter. Respondents also indicated that response options should be brief, and initial items should be connected with the purpose of the survey. All of the respondents thought it important that the instrument look easy to complete. Additional desirable mail questionnaire characteristics included: (1) brief instructions; (2) adequate space for responding; (3) one piece of information per item; (4) each item and its response options on same page; (5) choice of words reflecting literacy level of target population; (6) brief response options; and (7) items which are simple, direct, and unambiguous. (IAH)

Desirable Mail Questionnaire Characteristics in Teacher Education Research

by

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Researchers have commented that the nature of the population being surveyed should be taken into consideration when survey techniques are selected (Baumgartner & Heberlein, 1984; Berdie, Anderson, & Niebuhr, 1986; Jones, 1979; Mason, Dressel, & Bain, 1961; Sudman, 1985), and they have recommended caution in generalizing research results beyond the target population. More specifically, Sudman (1985) has posed the idea that effective survey procedures for professionals may not be identical to those used with samples from the general population.

There are many dimensions to a survey. The population surveyed, the focus of the survey, and the number of attempts to contact nonrespondents are but a few of the many ways in which surveys may differ and influence the effectiveness of the survey. The questionnaire itself is one aspect (a very important one) of a mail survey. There is some evidence that questionnaire variations can be used with equal success. Nonprofessional questionnaire construction and style of type have been as effective in surveying college graduates as the professional-appearing instrument recommended by some authors (Boser, 1990). Similarly, placement in the survey of open-ended and demographic items did not influence overall response rate, item responses, or completeness of responses (Jensen & Busk, 1991).

Previous research has sought to identify mail questionnaire characteristics that would be accepted by experts and general survey researchers as desirable (Boser & Clark, 1990; Clark & Boser, 1989). While the experts in the study did not unanimously agree on many of the characteristics, support from a second group of experienced survey researchers reduced even further the number of desirable characteristics (38 of the total 82 items) about which there was general agreement. Novice survey researchers tended to agree with the experts regarding questionnaire characteristics but were more conservative (Green, 1991). There exists the possibility, however, that some mail questionnaire characteristics, may be population- or study-specific rather than universally applicable.

One particular type of survey that is conducted hundreds of times each year in different locations by different institutions is the follow-up survey of program graduates. Procedures used in these studies vary considerably (Boser, 1988). To aid those who conduct various types of surveys, Roth (1981) developed a step-by-step manual for conducting surveys. He included checklists on question construction and format based partially on previously published materials from the 1950's.

Other sources dealing with follow-up surveys have utilized a variety of approaches but generally contain little about questionnaire development. McKenna (1983) assembled sample questionnaires from follow-up studies, accompanied by reprints of five brief published articles. Freeman (1988) compiled individual items in a variety of formats from some existing questionnaires into a sourcebook of items. In a special journal issue devoted to alumni research, only one article (Fisher,

1988) addressed survey instruments for mail and telephone surveys. and that topic was covered in five paragraphs.

The present study is an attempt to identify desirable mail questionnaire characteristics as perceived by those who conduct successful surveys (those with a high return rate) of teacher education program graduates. University sponsorship is almost always inherent in such studies. Some characteristics of the participants in this study have been controlled by limiting it to this particular type of survey effort. The members of the target populations for the respective surveys were familiar with the survey sponsor, potentially loyal to the sponsoring institution, and somewhat homogeneous in various respects (educational level, occupational objectives, etc.). For purposes of this study, data were sought from individuals regarding only their surveys of teacher education program graduates in their first year beyond program completion in an attempt to limit the extent to which response rate would be influenced by inability of the researcher to locate the graduates.

Method

Based on a previous survey of all teacher education programs that were accredited by the National Council for Accreditation of Teacher Education and members of the American Association of Colleges for Teacher Education (Boser, 1988), 178 programs that surveyed teacher education program graduates during the first year following program completion were identified. Difficulty in locating graduates can be expected to increase with the passage of time after leaving the institution. This study attempted to minimize variability due to that source by limit ng it to studies of first-year graduates.

Instrument

The survey instrument consisted of three parts. Each part was on a separate 8 1/2" by 14" sheet, folded in the middle with printing on both sides to provide four 7" by 8 1/2" pages. The outer sheet was ivory-colored, the middle sheet was salmon-colored, and the inner sheet was gray. Questions on the first part (the outer sheet) served to screen respondents to determine whether or not they fit the criteria for the study and to obtain demographic information. The second part of the instrument (salmon-colored) was titled ***Procedures Used in Most Recent Follow-up Surveys*** and asked 25 factual questions about the most recent survey of first-year graduates of the teacher education program. The inner sheet, ***General Considerations in Design of Questionnaires***, contained 82 items that were used in the Boser and Clark (1990) validation study. Respondents were asked to check in the blank beside each item that they considered to be important when they designed questionnaires for their respective follow-up surveys of graduates.

Procedures

In July of 1990, the individual identified as the contact person at each institution in the previous survey was sent the three-part questionnaire set and an explanatory cover letter. The recipient was requested to direct the materials to the person who had conducted the most recent

follow-up survey of graduates, if that person were someone other than the recipient. One follow-up mailing was sent approximately one month later. Of the 113 (63.5%) returned questionnaires, 24 contained information that excluded them from the survey. Of the remaining 89, four did not respond to any items on the ***General Considerations*** instrument, thus reducing the data pool to 85.

Responses to items on the ***Procedures Used in Most Recent Follow-up Survey*** were used to calculate response rate for that survey. Response rate was determined by subtracting the number of individuals who could not be located from the total number sent questionnaires, then dividing this number into the number who responded to the survey. Survey response rates could not be calculated accurately for five of the 85 in the data pool, leaving a total of 80.

The calculated response rates varied from 15% to over 90%. The intent of this study was to identify desirable characteristics (those that would be associated with successful surveys), so the responses from the 25% of the individuals (n=20) with the highest response rates were selected for analysis. Response rates for this target group were from 69% to 91%. Eight of the respondents supplied a copy of the questionnaire used in the study about which they reported.

Seven of the 20 conducted only follow-up surveys. Eighteen were employed in schools, colleges, or departments of education; the remaining two worked in career planning/placement units. Participants had an average of 13.6 years experience in survey research (see Table 1). The size of the target populations ranged from 15 to 2698.

The number of responses required for questionnaire completion also varied considerably. Most of the questionnaires (75%) contained two pages of questions or less. Only two of the instruments were constructed in booklet format (one with 86 questions and one with 52).

Analysis

Responses on the **General Considerations** form for the target group were analyzed by calculating percentages of the 20 respondents checking each item as important when designing follow-up survey questionnaires. Perceived importance of questionnaire characteristics was determined by the 80% agreement level. Sample questionnaires submitted by participants in the survey and responses to items on the ***Procedures Used in Most Recent Follow-up Survey*** were examined to better understand the importance or lack thereof regarding specific questionnaire design considerations.

Results and Discussion

A list of all items by category and their respective response percentages are listed in the Appendix. Percentages of the 20 respondents considering the various characteristics to be important ranged from 5% to 100%. Using the 80% agreement that was used in the previous validation study (Boser & Clark, 1990), only 18 items were perceived as important for mail questionnaires used in follow-up surveys of graduates (see Table 2). Fourteen of those items were among the 38 that had been previous recommended by the panel of experts and validated by the group of survey practitioners.

Table 1

Item	Response	n	%
Years Experience Conducting Surveys	3 - 5	4	20
	6 - 10	6	30
	11 - 15	2	10
	16 - 20	5	25
	21 - 25	1	5
	26 - 30	1	5
	31 - 32	1	5
Students Sent Questionnaires	15	1	5
	18	1	5
	20	1	5
	26	1	5
	29	1	5
	30	1	5
	37	1	5
	53	1	5
	75	1	5
	115	1	5
	136	1	5
	150	1	5
	200	1	5
	214	1	5
	300	1	5
	354	1	5
	360	1	5
	560	1	5
	600	1	5
	2698	1	5
Maximum Number of Responses to Questionnaire	3	1	5
	7	1	5
	9	1	5
	10	1	5
	15	1	5
	19	1	5
	20	2	10
	25	2	10
	26	1	5
	30	1	5
	35	1	5
	37	1	5
	38	1	5
	40	1	5
	52	1	5
	53	1	5
	71	1	5
	86	1	5
Questionnaire Construction	One page, one side	2	10
	Two pages:		
	One sheet, front & back	7	35
	Two sheets, stapled	6	30
	Three pages*	2	10
	Four pages*	2	10
	Six pages	1	5

*One in booklet format

Table 2

Desirable Mail Questionnaire Characteristics

Important for Follow-up Surveys of Program Graduates

Item		Percentage Rating Item Important
Previously Validated Items		
A2.	The instrument looks easy to complete.	100
B2.	The instructions are brief.	100
A6.	The type is clear and legible.	95
C11.	There is adequate space for responding.	95
E3.	All items are essential and relevant to the purposes of the survey.	95
E2.	Each item seeks just one piece of information.	90
E1.	The respondent is able to provide answers to the questions in the instrument.	85
A5.	Printing does not bleed through the paper.	80
B6a.	The instructions are clear: They specify when to put a check mark and when to write in a response.	80
C3	Each item and its response options are on the same page.	80
D1b.	The initial items are applicable to all members of the survey population.	80
F1.	The choice of words is appropriate to the literacy level of the survey population.	80
F3d.	Items are simple, direct, and unambiguous. They do not contain instances of double negatives in items and/or response options.	80
G1g.	Response options are appropriate for the item.	80
Items Important for Follow-up Surveys But Not Previously Validated		
B1.	General instructions that apply to the entire instrument are provided at the beginning of the instrument.	90
G1f.	Response options are brief.	90
A9b.	The front page (or cover) contains general directions.	85
D1a.	The initial items are clearly connected to the stated purpose of the survey.	85

There were four additional items thought to be important in follow-up surveys of graduates that were given less weight in general surveys. Comments in the previous study (Boser & Clark, 1990) indicated that experts and other experienced survey researchers sometimes thought general directions

(B1 and A9b) might be better placed in the cover letter than in the questionnaire. The follow-up researchers, however, appear to be more inclined to include the general instructions on the questionnaire, although one individual in the present study did note that these were in the cover letter. A possible explanation may lie in the nature of the cover letter (if a separate cover letter is included). Two of the eight sample questionnaires included a brief, one paragraph cover letter-type message to the graduate at the top of the first page of the questionnaire. A third questionnaire had a similar brief message stapled to the top of the questionnaire.

The follow-up researchers also thought response options should be brief (G1f) and initial items should be connected to the purpose of the survey (D1a). Both of these items were considered important by the original panel of experts but were not validated by the panel of experienced researchers in the previous study (Boser & Clark, 1990).

By way of contrast, twenty-four items that were previously validated were not considered important by this group (see Table 3). As previously mentioned, there are some fairly unique or distinguishing aspects of this type of endeavor. Institution sponsorship is almost always obvious, and there may be emotional ties between the graduates and the institution that facilitate return of questionnaires. The follow-up surveyors felt less need for politeness (B4, 75%) and expressing appreciation to the participants (A11, 70%) than did the survey researchers and experts in the previous research (Boser & Clark, 1990).

Follow-up researchers were more likely to place a value on making initial items nonthreatening (D1d, 70%) and easy (D1c, 65%) than interesting (D1e, 35%). It may be that because of the nature of their task, the follow-up researchers did not perceive the items or the study title (A1, 60%) were likely to be especially appealing or interesting to the participants.

The follow-up researchers may also have felt it was less important to have adequate margins and avoid the appearance of crowding (A3,65%) because they did not have to "sell" the participants on completing and returning the questionnaires. There was wide variation in margins among the eight sample questionnaires, with side margins ranging from 1/4 inch to 1 1/2 inches; top margins from none to 1 inch; and bottom margins from 1/2 to 1 1/2 inches. The appearance of the questionnaire with respect to margins and crowding is largely a matter of judgment, and such considerations may have been sacrificed in the interest of keeping the apparent size of the instrument small. All of the researchers thought it important that the instrument look easy to complete (A2, see Table 2). Fifteen of the 20 questionnaires consisted of no more than two pages of questions.

Some of the lack of support for these items may stem from a basic flaw in the design of the current data collection instrument. Respondents were instructed to check beside items they considered important, but there was no code for marking items that were not applicable. Item C14b is related to checklists in which column headings are carried over from one page to another (35%). This situation did not occur in four of the eight sample questionnaires. On only one of the four remaining questionnaires

Table 3

Previously Validated Items Not Considered Important in Follow-up Surveys of Graduates

Item		Percentage Rating Item Important
B4.	The tone of the directions is polite (e.g., "please").	75
F3b.	Items are simple, direct, and unambiguous. They do not contain instances of "loaded" items (that use emotionally colored words).	75
F3e.	Items are simple, direct, and unambiguous. They do not contain instances of negatively worded items coupled with agree/disagree response format.	75
A11.	Appreciation for completing the instrument is expressed.	70
D1d.	The initial items are nonthreatening.	70
A3.	Margins are adequate: instrument doesn't look crowded.	65
D1c.	The initial items are easy.	65
F3g.	Items are simple, direct, and unambiguous. They do not contain instances of "giveaway" words (e.g., "all").	65
A1.	The title of the study/questionnaire is likely to appeal to the survey population.	60
C9.	Response options are close to the item stem.	60
C8.	Response options are arranged vertically (or in columns if several consecutive items use the same response options).	55
D6.	Items with similar content are grouped together; within each content group, items with the same response format are presented together.	45
C7.	When response options are provided (including, if appropriate, a response of "other"), each response options has either a numeric or alphabetic code beside it.	40
G1a.	Response options exhaust all possibilities or include "other," "undecided," or "neutral" category.	40
G1b.	Response options are mutually exclusive.	40
G1d.	Response options do not contain more than one alternative that could be correct unless multiple responses are allowed.	40
C13.	When ranking, the number of items to be ranked is limited (e.g., three best and three worst).	35
C14b.	For checklists, column headings are carried over from one page to another.	35
D1e.	The initial items are interesting.	35
E4b.	For items used for skip/filter/screen purposes, instructions are few and simple.	35
B6b.	Instructions are clear; They indicate whether multiple responses are allowed.	30
D5.	If reference is made to a previous item, that item appears on the same page or on the facing page.	30
D7d.	Within a topic/content area, the items progress from objective to subjective.	30
D8.	Items that require recall are organized by logical time sequence.	25

was there a checklist with column headings (ranging from outstanding to needs improvement) repeated at the top of the second page. One questionnaire used the Likert Strongly Agree/Strongly Disagree format with graduates expected to circle their response (SA to SD) for each item. One questionnaire instructed graduates to rate various aspects of their program (grouped into clusters of items) using a scale from 0 to 4 that was defined only once on the first page. The final questionnaire directed graduates to rate aspects of their preparation by circling a number from 0 to 5 for each item, but the descriptions of the ratings ascribed to the numbers appeared only on the first page.

Item D5 (30%), for example, refers to "facing pages," but responses to items on the *Procedures Used in Most Recent Follow-up Surveys* indicated that only two of the 20 questionnaires included them. Item E4b (35%) refers to items used for skip/filter/screen purposes. Of the eight sample instruments that were submitted as examples, only two included any type of skip or filter items. None of the eight sample questionnaires included ranking items, thus item C13 (35%) was irrelevant in relation to them.

Some of the follow-up researchers did, however, think some items not related to their surveys were important. For example, item F3e concerning items utilizing agree/disagree response format was considered important by 75% of the study participants, but only one of the eight sample instruments contained agree/disagree items.

Summary

There are commonalities between the design consideration considered important by follow-up survey researchers and by the experts and experienced general survey researchers in the previous research. There also are differences in the procedures used and questionnaire characteristics in the surveys conducted with the general and specific populations. There were differences among the follow-up surveys in dimensions such as size of sample/population surveyed and questionnaire length, While not addressed specifically in this study, it has been noted that follow-up surveys also may serve varied purposes (occupational information, future plans, program evaluation), thus some of the surveys may have included types of questions not included in others (i.e. attitude/opinion questions).

Some lack of agreement between successful follow-up survey researchers and the group of experts and experienced general survey researchers may arise from differences in the nature of the survey and types of questions asked. Since the researchers in this study were successful in their surveys, it would appear that procedural differences may be warranted and may not be detrimental to a survey if the researcher knows, understands, and takes into consideration the target population as well as the circumstances related to the specific survey effort.

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Appendix

Percentage of Respondents Identifying Questionnaire Design Considerations as Important
(N=20)

Item	Percentage Rating Item Important
A. General Appearance	
1. The title of the study/questionnaire is likely to appeal to the survey population	60
2. Instrument looks easy to complete	100
3. Margins are adequate; instrument doesn't look crowded	65
4. Paper is white or light-colored with dark ink.	75
5. Printing does not bleed through paper	80
6. Type is clear and legible.	95
7. Size and style of type used for headings is consistent through the instrument. Consistency is also evident for items and response options.	65
8. There are not too many variations in size and style of type.	45
9. The front page (or cover) contains:	
a. the study/instrument title, prominently displayed.	55
b. general directions.	85
c. the name of the sponsor.	70
d. the address of the sponsor.	55
10. For a multi-page questionnaire, the back page does not contain items but may be used for comments.	25
11. Appreciation for completing the instrument is expressed.	70
B. Instructions	
1. General instructions that apply to the entire instrument are provided at the beginning of the instrument.	90
2. Instructions are brief.	100
3. Instructions are visually different from the body of the instrument (e.g., in size and/or style of type).	55
4. The tone of the directions is polite (e.g., "please").	75
5. If items appear on both sides of the page, an indication is given that the instrument continues on the reverse side (e.g., "Please turn over").	55
6. Instructions are clear:	
a. They specify when to put a check mark and when to write in a response.	80
b. They indicate whether multiple responses are allowed.	30
c. They provide guidance for expected length of open-ended responses	30
C. Item Format	
1. Items are numbered with Arabic numerals.	55
2. If necessary, either sublettering (e.g., 4a, 4b, 4c) or numbering by sections (i.e., starting each section with item 1) is used to limit the apparent number of items.	25
3. Each item and its response options are on the same page.	80
4. Statements or questions, rather than phrases, are used in collecting demographic information (e.g., "How old were you on your last birthday?" instead of "Age").	35

Item	Percentage Rating Item Important
C. Item Format (continued)	
5. If an item stem requires two or more lines, the second and subsequent lines are indented.	20
6. The respondent is asked to circle or underline responses already presented rather than write them on a blank.	65
7. When response options are provided (including, if appropriate, a response option of "other"), each response option has either a numeric or alphabetic code beside it.	40
8. Response options are arranged vertically (or in columns if several consecutive items use the same response options).	55
9. Response options are close to the item stem.	60
10. The space for responding to items is on the same side of the page throughout the instrument.	60
11. There is adequate space for responding.	95
12. Open-ended items are used sparingly.	75
13. When ranking, the number of items to be ranked is limited (e.g., three best and three worst).	35
14. For checklists:	
a. If long, a line is skipped after every three to six items.	15
b. Column headings are carried over from one page to another	35
c. Column headings are presented parallel, rather than perpendicular, to the item stem.	10
D. Order of Items	
1. The initial items are:	
a. clearly connected to the stated purpose of the survey.	85
b. applicable to all members of the survey population	80
c. easy	65
d. nonthreatening	70
e. interesting	35
2. If there are any sensitive or difficult items, they appear in the middle or near the end of the instrument, but not at the very end.	35
3. Open-ended items appear last.	55
4. Classification or demographic information is solicited at the end of the instrument unless needed for screening purposes.	5
5. If reference is made to a previous item, that item appears on the same page or on the facing page.	30
6. Items with similar content are grouped together; within each content group, items with the same response format are presented together.	45
7. Within a topic/content area, the items progress from:	
a. general to specific.	35
b. most familiar to least familiar.	20
c. least objectionable to most objectionable.	15
d. objective to subjective.	30
8. Items that require recall are organized by logical time sequence.	25

Item	Percentage Rating Item Important
E. Choice of Items	
1. The respondent is able to provide answers to the questions in the instrument.	85
2. Each item seeks just one piece of information.	90
3. All items are essential and relevant to the purposes of the survey.	95
4. For items used for skip/filter/screen purposes:	
a. The use of this type of item is justified.	20
b. Instructions are few and simple.	35
c. Instructions appear immediately after the response options.	25
d. Items pertaining to only some of the respondents are indented beneath the filter question.	10
F. Wording	
1. The choice of words is appropriate to the literacy level of the survey population.	80
2. Both sides of an issue (or neither side) are included in the item stem.	30
3. Items are simple, direct, and unambiguous. They have:	
a. no jargon, technical terms, or uncommon abbreviations.	75
b. no "loaded" items (that use emotionally colored words).	75
c. no assumption of an existing state of affairs (e.g., "Do you still...").	75
d. no double negatives in items and/or response options.	80
e. no negatively worded items coupled with agree/disagree response format.	75
f. no qualifying clauses, especially at end of stem.	50
g. no "giveaway" words (e.g., "all").	65
h. no inexact words or phrases (e.g., "any," "most," "several," "usually," "often," "regularly," "much the same").	50
i. no vague terminology (e.g., "the country," "just," "fair," "you").	60
j. not used the word "questionnaire" or "checklist" in heading or title.	40
G. Choice of Response Options	
1. Response options:	
a. exhaust all possibilities or include "other," "undecided," or "neutral" category.	40
b. are mutually exclusive.	40
c. include a "don't know" option.	30
d. do not contain more than one alternative that could be correct unless multiple responses are allowed (i.e., "check all that apply").	40
e. include both sides of the issue among the choices.	35
f. are brief.	90
g. are appropriate for the item.	80
2. Items with Likert-type response options:	
a. have an appropriately labeled midpoint.	60
b. use a balanced scale.	65
3. Sensitive information (e.g., age, salary) is collected using ranges for response options.	45