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### Uses

- ◆ To obtain feedback on some activity
- ◆ To obtain views and/or factual information from people

### Process

Think whether a questionnaire is the best way of getting the information or whether you can use direct observation or a carefully controlled experiment.

#### 1. Define your sample

State your objectives clearly.

Decide whether data can be collected on everyone involved (a census) or whether you are restricted to collecting information from a smaller group (a survey).

For surveys:

- ◆ define clearly your population of interest;
- ◆ think carefully how you can obtain a 'representative' sample (it is very easy to introduce bias into a survey if the sample is not chosen carefully) and how big your sample should be (the size will affect the reliability of the results).

#### 2. Clarify your objectives

Be very clear about your objectives and this will make it easier to write down precisely what information you require.

### 3. Develop your questionnaire

#### a. Construct statements

Think about whether you want to use open-ended questions or closed questions or a mixture of the two. Open-ended questions allow the respondent to express an opinion on some matter and could be a single word or a long statement; closed questions require a specific answer e.g. a box to be ticked, items to be ranked, etc.

Likert-type scales are useful for assessing a respondent's attitude to a statement, e.g. strongly agree, agree, neutral, disagree, strongly disagree. In order to avoid respondents agreeing with a set of statements without thinking clearly about each one, vary positive statements (e.g. I found the package easy to use) with negative statements (e.g. the screens were too cluttered).

#### b. Design the questionnaire:

- ◆ Include an introduction explaining the purpose of the questionnaire
- ◆ Give clear instructions on how to fill it in
- ◆ Keep questions simple and unambiguous
- ◆ Use a consistent style (not a mixture of ticking boxes, circling answers, etc.)
- ◆ Arrange questions in a logical order putting sensitive issues towards the end
- ◆ Include a thank you at the end
- ◆ Including codes for responses can be useful if the analysis is to be carried out using a computer package

Responses to open-ended questions can be very useful in preliminary studies to find out what issues respondents consider to be important; however they are much more difficult to code and analyse.

If possible, make use of or adapt a standard questionnaire which has been tried and tested by other researchers.

Keep the questionnaire as short as possible.

Try and give the questionnaire a professional appearance.

Allow time at the end of a class to get students to complete a questionnaire while they are captive!

#### 4. Practicalities of application

Before using the questionnaire in earnest, pilot it with 4 or 5 respondents to uncover any potential problems in the questionnaire and in the analysis.

Questionnaires can be:

- ◆ handed out and completed there and then (ensuring a good response);
- ◆ handed out and collected in at some later date (giving respondents more time to consider their answers);
- ◆ posted out (generally results in a poor response rate);
- ◆ administered in person or by 'phone (takes much longer but achieves a good response rate and allows clarification).

Consider whether non-respondents would be likely to answer the questions differently to the respondents perhaps causing bias. Follow up non-respondents if possible.

#### 5. Analysis

Check answers for values outwith expected ranges and inconsistencies.

Check the answers to open-ended questions to see if they have common responses that can be coded up in some way.

There are many ways to usefully present the information from questionnaires visually – bar charts, histograms, scatterplots, etc. Most statistical analysis packages allow these to be produced easily. Spreadsheets can also be used to analyse questionnaire data. However, if a very large survey is being undertaken, it may be worth considering a specialist package such as SphinxSurvey, distributed by Sage Publications (<http://www.sagepub.co.uk>).

#### Example from a questionnaire

Finally, please give us your views on using CBL packages to learn mathematics

a) What drawbacks do you see in using CBL?

b) Can you suggest ways of overcoming these drawbacks?

c) What benefits do you see for using CBL?

#### Other Relevant Pages

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- Checklists
- Pre and post testing
- Trials
- Designing experiments
- Resource questionnaires
- Interviews
- Focus groups
- Confidence logs
- Cost effectiveness

##### Information Pages

- Likert scales
- Questionnaires
- Guidelines for questions
- Statistics questions
- Student sample
- Interviewing

##### Serving suggestions

##### References