

# Creating effective questionnaires and surveys and analysing the data

A course organised by CILIP and delivered by Kathy Roddy (1-2 February 2006)  
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Please find below a brief write up of material covered on the above course.

## **Research**

Should be systematic.

Primary research – Creates new knowledge, collects new data and establishes new facts.

- 1) Quantitative: Collects data and uses it to draw conclusions eg. Survey of library user's use of the internet.
- 2) Qualitative: Concerned with views, attitudes, behaviour eg. How useful do they find the library's internet guidance notes?

Secondary research – Finding and using existing information. May use books, journals, the Internet.

The research brief must articulate a clear purpose to the research and set out clear aims and objectives (what will be researched, how etc.) Consider **factors** affecting the research: Budget, time, availability of people to respond to surveys etc. Consider **purpose** of the research: To evaluate a service, to formulate policy etc.

## **Research aims and objectives**

Clarification of aims and objectives helps to gain a focus on specific information required from the research, ideas about research strategy and methodology and, later on, allows an assessment of whether or not sufficient information has been gathered from the research.

Having established aims and objectives, consider boundary issues which will affect how the research is conducted. Examples: geographical remit, budget, timeframe, level of detail, authorisation, presentation of findings.

## **Research methodologies:**

### **- Observation and experiments**

Observe what is happening, for example - people's behaviour, regular problems encountered with a particular service etc. This can develop into an experiment when, for example, a solution to a perceived problem is implemented – how do people respond to the solution?

These methods can provide information about what is happening but do not necessarily give reasons why.

### **- Survey methods**

## **Questionnaires**

Versatile – paper or electronic, can be given to participants to complete independently or can form the basis of structured interviews.

Ensure that questions are worded and structured appropriately:

Open questions – Require an answer that hasn't been pre-determined by the researcher but require more thought so may put some respondents off.

Closed questions – More easily analysed but care must be taken to ensure that all possible response options are covered.

Question formats

- 1) Lists – Respondents can select all applicable answers (eg. Which of the following library services have you used in the past 6 months?)
- 2) Category boxes – Respondents can only select 1 answer (eg. How old are you?)
- 3) Grids – Ask more than 1 question at a time (eg. How often do you use the following services?)
- 4) Ranking – Place things in order of importance (eg. Which is the most important library service? Lending, reference, Internet access etc.)

Common flaws in questionnaire design

Leading questions

Assuming an opinion in the questions

Vague questions

Questions asking more than one thing in a format that doesn't allow an appropriate answer

Pointless questions

Unclear instructions

Insensitive / offensive questions

Always pilot a questionnaire before release to highlight potential problems.

Other considerations

If conducting a face-to-face survey, consider time of day

Response rates – likely to be lower if the questionnaire is long or contains lots of open questions

Whether the sample will be randomly selected (ie. whoever walks past at the time) or quota sampled (ie. based on gender, ethnicity etc)

## **Interviews and focus groups**

Interviews provide a question framework but bring the benefit of allowing the researcher to ask follow up questions. For the purposes of analysis, responses can be grouped into corresponding themes, opinions etc. Results can also be presented as case studies to illustrate trends. Due to time constraints, sample groups will tend to be smaller than with questionnaires.

Focus groups also provide further qualitative data. They can be very useful as a starting point as they are likely to increase the researcher's knowledge of the subject under investigation and introduce possible lines of enquiry to be followed up.

It can be helpful to tape interviews and focus groups.

## **Recording research findings**

The simplest method is to use a spreadsheet or database. Responses can be coded to allow entry into the spreadsheet / database. Of the MS applications Excel works best on numerical data,

giving far more scope for complex calculations, and Access with alpha or alphanumeric data, since it can cope with reasonable amounts of text.

## ***Analysing research findings***

Simplest form: Top line data – How many respondents answered a certain question in a certain way.

More detailed: Bivariate and multi-variate analysis – Gives more details about particular sub-groups and sub-categories. Responses are analysed by reference to particular groups (ie. by age). Multi-variate analysis looks at a wide range of variables, helping to bring out trends and relationships. When analysing results, care must be taken that trends and relationships are not coincidental.

Explain data within the framework of the research aims and objectives.

Main statistical methods for analysis:

Frequency (50 men, 50 women): Number of responses from raw data

Proportions (0.5 men, 0.5 women): Frequency figure divided by frequency total

Percentages (50 % men, 50% women): Proportion multiplied by 100, useful for measuring rates of change

Ratios (men to women 1:1): Divide 1st figure by itself (=1) and 2nd figure by the 1st (in this case also = 1)

Calculating the average

Note the different ways of expressing an 'average'

- 1) Mode – Most frequently occurring answer, highlights the largest 'modal' group
- 2) Median – Middle value from the data range, the point halfway between the two central values
- 3) Mean – Total sum of the answers divided by the number of answers (easily distorted by an occasional high value)

Data can be analysed using both Excel and Access. Excel creates charts and calculates the mode, median and mean. Access isolates particular queries from the set of data.