

Chapter 3

3.0 INTRODUCTION

Data analysis can be one of the most challenging parts of the project, but is crucial to making sense of the information you have collected. Once you have compiled all of your data, help your students to look for patterns. You may want to create graphs or charts to see the information more clearly. You can then begin to draw conclusions. What do the data tell you? Be sure to think critically and logically to create an explanation *based on the actual evidence/data that you have!* Remember that the reality of scientific research is that it is unpredictable. Help students to consider any problems you encountered, and to offer solutions and suggestions for the future.

Communication is very important in science. The final step in any research project is sharing your conclusions with others through reports, posters, presentations, or publications. You could invite another classroom and/or parents to hear your presentation.

3.1 THE EVALUATION REPORT

The evaluation "report" is one of the most important parts of the evaluation. It is the official record of the evaluation. For many people it is the *only* part of the evaluation that is seen. A good evaluation "report" answers some or all of the evaluation questions. An evaluation "report" does not have to be a written report. However, there should be a written document available to the agency.

There are many ways of communicating results of an evaluation including:

- informal communications (*in the hall, over coffee, before and after meetings*);
- less formal meetings (*small groups, no minutes*);
- formal meetings;
- memos;
- written reports;
- newsletters;
- electronic communication;
- visual presentations (*slide show, video show*);
- public meetings; and
- local media presentations.

3.2 A GOOD EVALUATION REPORT

- describes the program and the steps in the evaluation;
- explains the procedures used;
- presents the findings;
- draws conclusions about those findings;
- and is prepared with the audience in mind.

More than one report is frequently useful. A report is often used for different purposes, and with different audiences. Many people do not need a long report, or even a written report. A short summary report, or a verbal report, will satisfy the needs of such an audience. On the other hand, some people need the detailed information, which can only be provided by a long report. There is also reason to have a more detailed report for archival purposes.

3.3 PRESENTING THE DATA

In general, most evaluations conducted by local programs would lend themselves to *descriptive* analysis of data. Descriptive analysis is a way of summarizing and aggregating results from groups. If an evaluation has been conducted which employs a control group, or measures changes in program participants over time, then it might be appropriate to employ *inferential* analysis in which a decision is made about whether the particular results of the study are "real". More emphasis will be placed on descriptive analysis in this fact sheet.

3.3.1 Verbal Description of Data

Many reports rely on narrative information to present most, if not all, of the necessary information. Narrative information may be presented in three ways: standard writing style; tables; and/or, figures, diagrams, maps, and charts.

Standard writing style, that is, the use of sentences and paragraphs, is often the best way to present information, especially to audiences that are not accustomed to working with charts, graphs, tables, numbers, etc. It is the only way to present information such as examples and explanations. If standard writing style is used to summarize the results of open ended questions ("What do you like *most* about the program?"), it is often useful to give some indication of how often a particular response was given.

Tables represent narrative or numerical information in tabular fashion. A table arranges information in rows or columns, so that data elements may be referred to easily. They provide a clear and succinct way to present data, and are often more simple and understandable than standard writing style. They also facilitate the interpretation of data.

Program Site	Hours of Operation	Type of Service
Wedgewood Day Care	7:30-6:00 Monday thru Friday	Center Based Day
Crystal Home	24 Hours	Center Based Overnight

Figures, diagrams, maps and charts present verbal information visually. They often describe information more clearly than several paragraphs of description. Common forms of figures are: flow charts; organization charts; GANT charts; and/or maps.

- **Flow charts** are particularly useful for presenting relationships and/or describing the sequence of events and the location and result of decisions.
- **Organization charts** are useful for presenting the chain of responsibility in a program.
- **GANT charts** list a set of tasks. They indicate the time each task is to be performed and by whom.
- **Maps** visually describe certain geographical areas. They are useful in describing different conditions for individual geographical areas.

3.3.2 Numerical Description of Data

Data are not only described in narrative, they are often described numerically. Three of the most basic types of summarization are:

- frequency distribution;
- percent; and
- average.

Each of these types of summarization may be presented as part of the text or arranged in tables or figures (graphs). Inclusion as part of text ("*The average age for children served was 18 months*") is an obvious way to report data.

Frequency distribution determines the number of units (e.g., people) which fall into each of a series of specified categories. In order to do a frequency distribution one must have categories. Reporting on age, for example, requires that you group the data first before constructing a frequency distribution (e.g., "birth to 2 years," or "3 to 5 years"). The evaluation might look to see how many parents were members of particular racial or ethnic categories, how many were known to protective services, or how many were referred from a range of referral sources.

Frequency distributions are not limited to descriptions of consumer characteristics. Program activity can also be presented categorically. The frequency distributions can be presented as tables or graphs (usually bar graphs). See figures 1 and 2 for examples.

	Crisis Nursery	Respite Care
Two Parent	97	213
Single Parent	182	78
Foster Parent	2	35
Relative	7	7
Other	22	3

Figure 1: Family Type Table

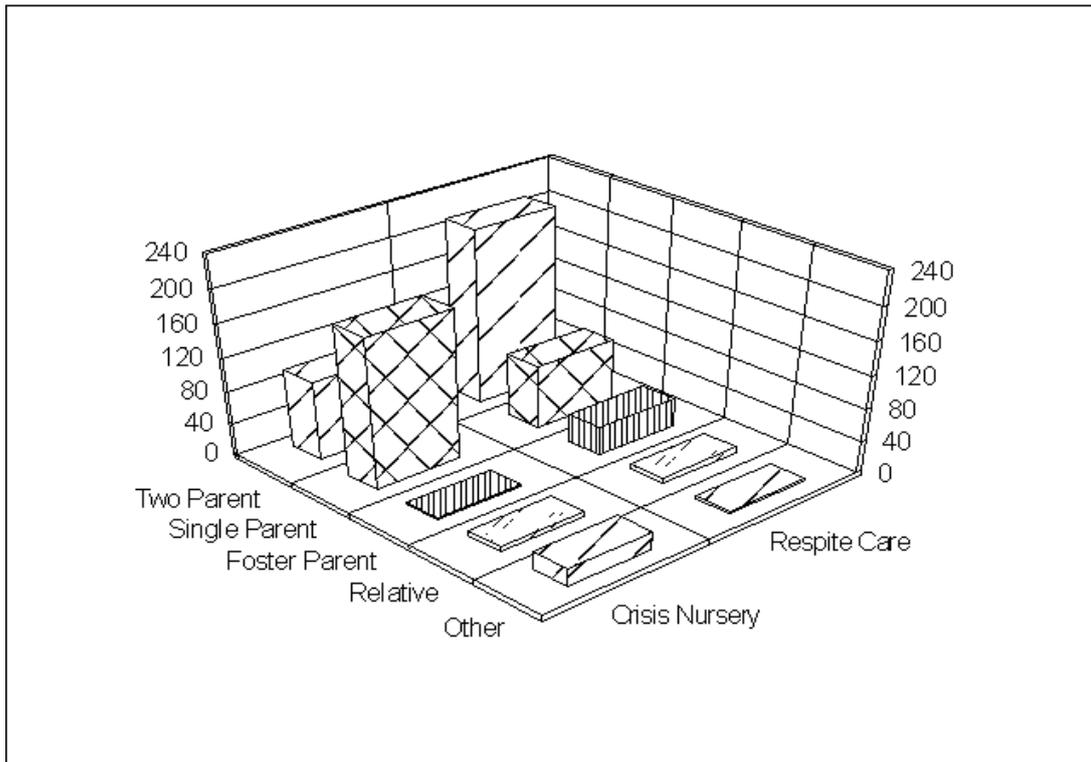


Figure 2: Family Type Bar Chart

Percent is another useful way of describing data. A frequency count can be converted to percent by dividing the number of units for a particular category by the total number of units and multiplying by 100. Percents are often more easily understood than the corresponding frequency counts. Percents can be represented in the same manner as frequency counts. In addition, a pie chart is useful in breaking the total group of people into the percentage of the total represented by each category. See Figure 3 for an example.

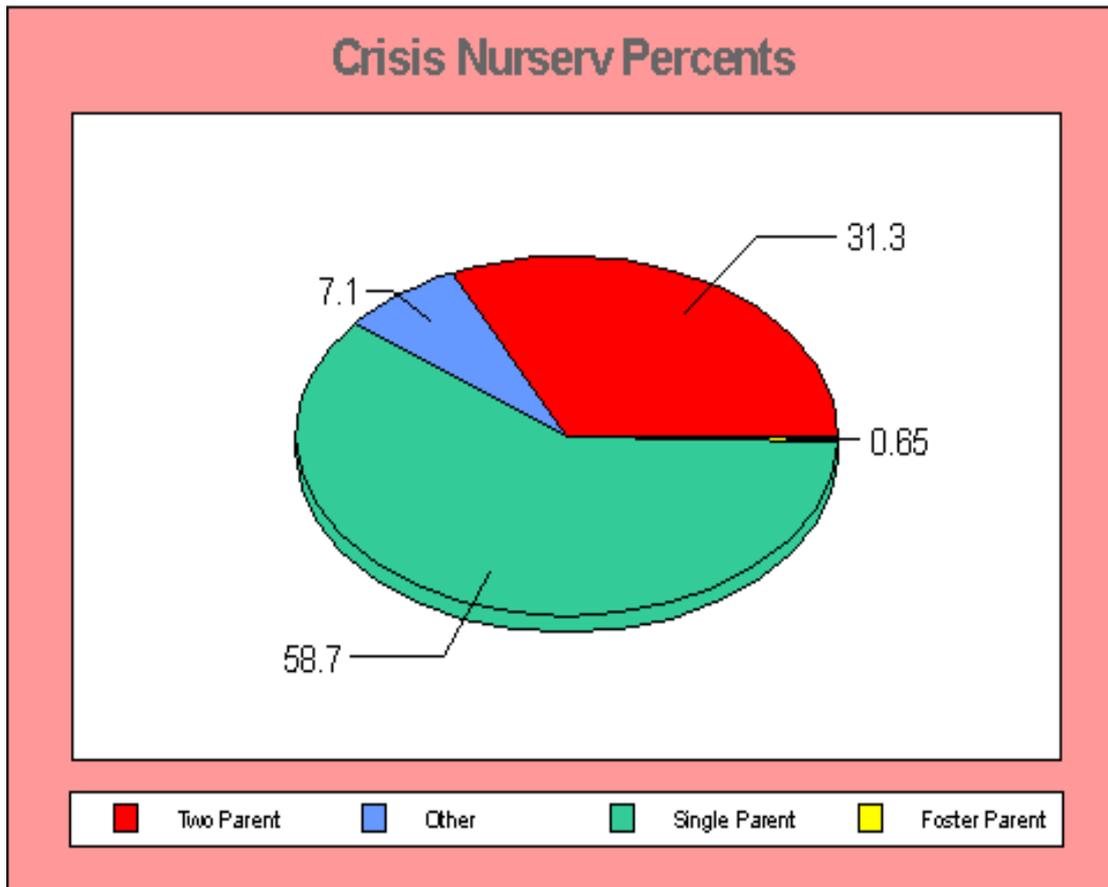


Figure 3: Crisis Nursery Percents

An *average* is a way of summarizing all of the information into one number. It can be used with data, which is *non-categorical* numerical data. You *cannot* have a numerical average for gender or race, for example. Using a numerical average is very powerful, but it can also be misleading. A few data points that are very different from the others could substantially change the numerical average. For example, if the ages of children you serve are generally between 1 and 3 years, but you get one child who is 18, the average may be thrown off. Averages can be represented in tables or graphs.

Average Length of Respite Care	
<i>Name of Child</i>	<i>Hours of Respite</i>
Mike	6
Tanisha	8
David	8
Sue	3
Juan	7
Total	32
Number of Scores=5: Average=Total Hours (32) divided by Number of Scores (5). The average length of respite=6.4 Hours	

3.4 CONCLUSION

There are some things which can be done to encourage the utilization of evaluation results:

- Write a good report which attends to the important issues which were raised in planning for the evaluation.
- Write a report which pays attention to the audience's needs and abilities.
- Make concrete and usable recommendations.
- Involve the program staff in all steps of the evaluation process.
- Disseminate the results in various ways and in various settings.
- Write a report which can be easily understood by those who receive it.