

niques in a few pages, but the professional literature has not yet adequately met this need.

Chapter 7, "The Last Planning Steps" contains PERT and Grantt charts and an "Operations Research Time Study," all of which can aid the staff in reducing the complexities of moving to manageable details. Upon reading through this useful, compact volume of 132 pages of text, it sometimes seemed as though it were intended for the librarian who would be faced with doing everything entirely alone and at other times as though one might just be able to get a little outside help. For the novices who read this book, they may not realize just how much help is available nor how possible it might be for them to ask for help. This book is filled with many how-to details that help the read to understand the planning process, but not always fully nor absolutely correctly. It is important for the librarians who read this book to recognize their own limitations in time and experience and to understand when they can do parts of the planning themselves and when they should seek outside professional help.—*Gloria Novak, University Library, University of California, Berkeley.*

Swisher, Robert, and Charles R. McClure. *Research for Decision Making: Methods for Librarians.* Chicago: American Library Assn., 1984. 209p. \$25. LC 84-12381. ISBN 0-8389-0398-3.

This is a difficult book to review because it addresses a significant gap in the literature on research for librarians but does not, in my opinion, fill the most important part of that gap. The authors identify "action research" as research for decision making. This fits well into the more general trilogy: research for the sake of better understanding, research for action, and research for no good reason at all. In each category it is possible to do good research or bad research. In fact, research that is good for one category may be fair or even poor in another.

The trouble with this book is that it does not tell us enough about how to do good action research, or even how to recognize (and thus avoid) bad action research. I am

left somewhat ill at ease by a book that tells me something is doable, and worth doing, but doesn't show me, through either good or bad examples, how to do it well.

On some subtle questions, such as the meaning of confidence intervals, the authors do a very nice job. On other issues, dealing with logical relations, they have more trouble.

An example is the use of flowcharts to illustrate the interrelation of concepts, processes, signals, or other entities. Flowcharts can be powerful aids to thought, or abominable. The worst are diagrams with eight or ten circles, all linked by lines, to suggest that all the parts have something to do with each other. At the other extreme we have the feedback diagrams of systems engineering, which can be so precise that the diagram itself specifies a differential equation, up to a few undetermined constants.

The flowcharts on pages 5, 7, and 9 are poor because they mix concepts, products and processes in a confusing fashion. The authors do not use the powerful analysis of the relation to environment presented in Churchman in "The Systems Approach." He stresses the distinction between resources, which may be used by the system, and constraints, which must be obeyed or satisfied. Churchman's book is accessible to a bright high school senior, and is worth reading.

Again, the flowchart selected on page 36 to illustrate the use of flowcharts is not a good example, because it does not make clear where items enter the system, how they come out, and how many of them follow each path. The basic structure of the process is simpler than it appears here.

Confusion about functional relationships is shown in the pair of graphs on page 15 that ought, by the labeling of their axes, to be symmetric to each other. Nonetheless, the dotted lines droop down in both graphs. This kind of carelessness is reflected throughout the text. Properties, concepts, and objects are loosely interchanged even within a single sentence. In longer discussions an implied equivalence is set up (for example, between research competency and research literacy, on page 15) among different concepts, mak-

ing one feel the unseen presence of Humpty Dumpty. The discussion on page 6 adduces the properties of stable closed-loop systems to open library systems. On page 8 we are asked to believe that the inputs to a library system are its goals. Elsewhere we are told that a library sets its goals, and given a flowchart implying that the setting of goals is a part of action research.

Although Swisher and McClure don't make common mistakes in their discussion of statistical inference, there is still something to be desired. Most library researchers today will be presented with SPSS output or something like it. The authors could have shown us what that looks like, and have illustrated it with a reasonable set of ample data (perhaps fifty or one hundred data elements.) If their mission is to overcome the fright librarians may feel upon seeing this stuff, the book should display one or two tame examples, to ease that fright.

Rather earlier, on page 16 they cite a hypothetical case in which a study establishes "a statistically significant relationship . . . between women undergraduates and skills taught." I have no idea how the rows and columns of the cross tabulation would be labeled, and I submit that the reader won't either. If the authors do, they should have told us. If they don't, then how can we be confident of their seriousness?

Furthermore, a key point about the "use of statistics" is not brought out. The whole idea of confidence intervals is designed to prevent premature rejection of some natural hypothesis (usually called the null hypothesis, H_0) in favor of an alternative that may appear better through the action of chance alone. In very rough language, the 95 percent confidence interval is designed to make the odds against this particular mistake 19:1. HOWEVER! In action research we are usually not "testing a new fertilizer" (perhaps that is more the domain of the reader of type III research)—we are trying to "learn something new." Most statistical packages build in the null hypothesis that variables are unrelated. That is absurd. What we usually want to know is: "How much are

they related?" Is the relation of managerial or economic significance?

If I am trying to estimate whether a particular library is circulating as many books as it ought to, I have some idea that this is related to the number of students enrolled in the departments that it serves. To see whether it is "off the line" I assemble the relevant data and draw some kind of plot. If I hand the problem to a statistician she may do a regression analysis, and may tell me that the R-squared value is large, and that I can have high confidence in the regression. What that means is that the (absurd!!) null hypothesis built into computer program (namely that the two variables have nothing to do with each other) can be rejected. It does not mean that every branch ought to lie on the curve. (This can be dealt with by calculating the band of error, which some programs do, but my point is that we are not interested in preserving the null hypothesis here—it is a straw woman.)

To sum up, the authors know a great deal about research, and about statistics, but they have not shared the most important parts of that knowledge with their readers. The project planning chart (page 29) is a useful example for someone who has not done project research before. Chapter 4, on surveys and questionnaires, contains some good tips and pointers.

Taken together, the book cannot be recommended. It is not informed by a single critical intelligence, and in places it looks as if the authors shared a single sentence (many run to sixty and seventy words) making the same point twice. The imprecision in the treatment of ideas will disturb experienced managers and experienced researchers alike. It would make a poor introduction to either subject for those without experience. In spite of some bright spots, this is rather more a book about the literature than about research. The important gap is still unfilled.—Paul B. Kantor, *Tantalus Inc., Cleveland, Ohio.*

Evaluation of Reference Services. Ed. by Bill Katz and Ruth A. Fraley. New York: Haworth, 1984. 334p. \$29.95. LC 84-12898. ISBN 0-86656-377-6. (This work