Book Reviews

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The two books reviewed in this issue are: *Television Production Handbook* by Herbert *Zettl* and *Practical Guide to Computers in Education* by Peter Coburn, Peter Kelman, Nancy Roberts, Thomas F. F. Snyder, Daniel H. Watt, and Cheryl Weiner.

Television Production Handbook, 4th Edition, by Herbert Zettl. Belmont, CA.: Wadsworth, 1984, 614 pages.

Reviewed by Rose Bene

Herbert Zettl's *Television Production Handbook, 4th Edition* showcases many of the advances in television technology which have occurred since the book's original publication in 1961. Some of these include: the evolution of color television, the transition from larger to smaller production formats and the computerization of most of the essential operations involved in assembling a television programme. Both those who are new to or familiar with the subject matter will find that this book is a very comprehensive and readable description of the many interrelated elements within production. In fact, Zettl's writing style encourages the reader to feel a personal commitment towards understanding the entire process of creating television.

In comparison to the 3rd edition, the author's treatment of the content in the 4th edition incorporates some major improvements. First, at the beginning of each chapter, he introduces the basic principles and techniques of a particular production phase, role or piece of equipment and then in part II of the chapter, elaborates on its functional qualities or applications. Second, Zettl takes a more systemic approach to the process of television production. Where appropriate, he also includes a discussion of the latest developments in remote or on-location ENG (Electronic News Gathering) and EFP (Electronic Field Production) equipment and procedures. Finally, Zettl speaks of the conventions of television shooting and editing. He recommends that neophytes learn the essential skills before attempting to utilize the medium in new ways.

Most equivalent textbooks end their coverage of topics at this point. However, Zettl goes one step further to examine the aesthetics and ethics of television production. He provokes the potential practitioner to not only learn about the unique qualities of the medium but to analyze the "rightness" of certain practices and their effects on audiences.

The fact that the topics in the book have been organized with an emphasis on studio production and from a network broadcaster's perspective is somewhat limiting. While the techniques and principles of producing a programme are similar for both studio and on-location projects, a more in-depth treatment of how high quality, small format products could be utilized would have been welcome since these will likely become the "modus operandi" of future broadcast and nonbroadcast operations.

It is also somewhat disappointing that Zettl only briefly mentions the technology associated with such computer/media hybrids as interactive videodiscs despite the increasing evidence of the application of these products in both commercial and educational contexts.

Two other minor weaknesses of this textbook are: 1) the transfer of many of the same illustrations from the 3rd edition to this edition and 2) the exclusive reference to American organizations. Although the most inappropriate photos (those showing early 70's fashion) have been eliminated, the majority are not new, as Zettl claims. Nevertheless, they are still valuable in illustrating the concepts to which they relate. In the same manner, Zettl's reference to American media networks and organizations does not limit the book's worth but Canadian readers should be aware of the Canadian equivalents. For example, ACTRA (Alliance of Canadian Cinema, Television and Radio Artists) is the Canadian equivalent of AFTRA (American Federation of Television and Radio Artists), the CRTC (Canadian Radio-Television and Telecommunications Commission) is the Canadian equivalent of the FCC (Federal Communications Commission).

Due to the immensity of this work, a precis of each chapter will be provided with a more detailed discussion of one or two topics which have some interest to those involved in the fields of educational communications and technology.

Throughout the book, Zettl employs an instructional design strategy such as that proposed by Fleming (1981). An 'advance organizer' informs the reader of the main content concepts to be dealt with in each chapter. Next, details of the particular topic, (each piece of equipment, its functions and operation and each production phase or role) is provided, followed by a summary of the main points in each chapter. Key concepts or vocabulary are defined at the beginning of each chapter and reiterated in a glossary at the end of the main body of the text.

In Chapter One, Zettl introduces the idea of television production as a system. However, he does not take this theme far enough. Periodically, he intersperses systems terminology throughout the descriptions of the equipment, roles and functions. Yet, he deals with these concepts individually and does not explain how they fit into the overall system of television production.

The process of assembling television programmes is not one system but a network of subsystems which operate together within a metasystem. In order to comprehend the task of sound production, for example, one would have to describe: 1) the inputs or the various sound sources which feed into the audio console; 2) the operations which occur within the audio console or black box (first order feedback loops which involve the monitoring, balancing, mixing, equalizing and sweetening of the sound); 3) the second order feedback loops which occur when using a digitalized audio console with a built-in 'memory system; 4) the noise in the system as caused by certain human variables, machine dysfunction, electronic interference, and other external, environmental sources; 5) the feedback loop which exists as a result of monitoring the final sound output before it is transmitted on the master lineout; and 6) the external feedback from the target audience who hears the final sound. Programmes with good audio are deviation-amplifying in that they encourage the replication of other, similar high quality programmes thereby adding to the network's inventory. They are also deviation-limiting in that they establish a certain standard of quality or homeostasis in sound production which is then maintained.

The more complex a system, the more difficult it is to understand the system's structure and predict its behavior. As components increase, the greater the interrelationships and the greater the variety within the system. It is perhaps due to this complexity that Zettl

steers away from discussing the cybernetic model of television production.

Chapter Two, section I deals with the camera and its functional properties. The information on digitally controlled cameras which use microprocessors to align and ensure optimal performance under a variety of shooting conditions is of particular interest. ENG/EFP cameras and their operational modes are described in the second part of this chapter.

Chapter Three focuses on the optical, operational and performance characteristics of different types of lenses, the most recent advance being the variable focal length zoom lens. Chapter Four explains the various camera mounts and mounting heads such as the pneumatic pedestals for studio cameras and the fluid head tripods for ENG/EFP cameras. Types of camera movements are also described. In Chapter Five, the step-by-step operation of both studio and ENG/EFP cameras is presented along with the major factors of picture composition. The concept of psychological closure, i.e. the practice of the human perceptual apparatus to fill in spaces not actually seen (for example, to imagine the whole performer although the camera reveals only a close-up of his face) is an interesting highlight in this chapter.

Without light, there would be no video image. Chapter Six covers incident and reflected light, directional or diffused illumination, color temperature, lighting equipment and objectives for lighting. As a complement to this, Chapter Seven, section I discusses the intricacies of lighting strategies (three-point lighting and lighting for continuous action/movement) with section II devoted to the particular challenges of lighting on remotes.

Audio pickup is the main topic of Chapter Eight. Types, operational characteristics and uses of various microphones are all included. Chapter Nine primarily concentrates on the various aspects of sound routing and control in a studio situation. Section II of this chapter deals with the aesthetic factors of sound recording as well as the new advances in digital recording and time compression systems. These systems allow sound to be amplified, modified and balanced without increasing noise.

Chapter Ten examines the six principal image recording modes (ENG style, film style, live-on-tape, segment style, isolated camera, multiple camera), types of video recorders (quadraplex, helical track and videodisc) and the detailed planning involved in video recording. Improvements in tape quality and recorders have prompted the broadcasting networks to change from 2" tape format to: a) 1" formats for regular programmes and b) 3/4" formats for news and sports inserts. Problems such as tracking, skew and synchronization which occur on these formats are now being corrected through such innovations as the time base corrector and frame store synchronizer. While electronically coordinating signals from a number of video sources, these devices help to stabilize the image, particularly on transfers from one format to another.

In Chapter Eleven, Zettl identifies the major editing functions and the principal editing modes (offline and online, assemble and insert editing). New address code systems provide an electronic signal for each frame on the videotape thereby speeding up the process of editing. Topics such as single and multiple source editing, basic transitional devices, the purpose of rough cuts and editing logs are all covered in the second part of this chapter. Chapter Twelve, section I focuses on instantaneous editing while section II details the special features of computer-assisted switchers and image enhancers.

Its capacity to create visual effects is one of the main reasons that television continues to captivate audiences of different ages. Chapter Thirteen subdivides visual effects into standard electronic, digital, optical and mechanical effects. An in-depth description of a variety of digital video effects (split-screen, echo, compression/expansion, changing the

aspect ratio, perspective, horizontal/vertical flips, posterization, mosaics, and motion) is provided in section II.

Chapter Fourteen covers the specifications, types and principal devices for generating graphics (hand-drawn/graphics cards, character-generated graphics and digital still store systems). Aspects of set design are also explained.

No television programme is complete without talent and this is exactly the subject of Chapter Fifteen. Section I spells out the differences between performers and actors as well as looks at the art of cueing talent and conducting auditions and rehearsals. Section II outlines the principles of make-up and wardrobe.

Finally, in Chapter Sixteen, Zettl returns to his principal theme of television production as a system. He delineates two approaches to television production: 1) the 'content' approach - content dictates how the programme will be produced; or 2) the 'effect to cause' approach - viewer need is the motivating force for the programme. It is in this chapter that he elaborates on such factors as needs assessment, viewer involvement, capabilities of the medium, audience feedback, product evaluation and the specific skills required of the producer in carrying out these tasks. To extend this systemic approach, Zettl could have established these two approaches as the focal points in the book. Then more detailed information on equipment, roles and functions could have evolved during the discussion of the different phases of programme or series planning.

Techniques of control room and film style directing as well as the various roles that a director must undertake are defined in Chapter Seventeen, section I. To Zettl's credit, he is careful not to identify roles in television production as belonging to one gender or another, thereby recognizing that both males and females are capable of taking on these positions. Visualization and sequencing (or the conversion of the script into ordered images), script formating and script preparation are all described in section II.

Finally, Chapter Eighteen highlights the features of and procedures for handling large ENG/EFP sports or performance remotes.

One of the most important qualities of this textbook is Zettl's sincere reminder to television practitioners of their responsibility towards audiences. In the epilogue to the book, he writes:

> You are now in command of one of the most powerful means of communication and persuasion. Use it wisely and responsibly. Treat your audience with respect and compassion. Whatever role you play in the production process -- pulling cables or directing a network show -- you influence many people. Because they cannot communicate back to you very readily, they must and do trust your professional skills and judgement. Do not betray that trust.

Perhaps a cybernetic perspective might have made this book more appealing to those involved in the fields of educational communications and technology. As well, Zettl could have been more articulate on the theme of media effects. Findings of studies which investigate the effects of camera motion, camera angles, lighting, photography, music and performance characteristics are all relevant to the television practitioner who needs to decide which formats, techniques and strategies work best for different audiences in specific programming contexts.

Nevertheless, any educational communicator, technologist or broadcaster, who is interested in how television impacts on learners, should have a full understanding of the workings of television production and for this, Zettl's *Television Production Handbook 4th, edition* is an excellent and valuable resource.

REFERENCE

Fleming, M. (1981). Characteristics of effective instructional presentations. *Educational Technology,* 21, 33-38.

Practical Guide to Computers in Education, Second Edition, by Peter Cobum, Peter Kelman, Nancy Roberts, Thomas F.F. Snyder, Daniel H. Watt, Cheryl Weiner. Addison-Wesley, 1985.

Reviewed by Arnold Keller

It's a commonplace that the computer will remain an ex-miracle until teachers genuinely know what to do with it. Regardless of what's spent on shiny hardware or slick software, not much useful in the classroom can happen until teachers see themselves as directing learning, instead of hanging on for dear life. How, then, to present the technology to give teachers a sense of what they can do, rather than have done to them? The second edition of the *Practical Guide to Computers in Education* sets out the basics of educational computing, from the chips and bolts of hardware to the attendant educational and ethical implications. No *mere* book, of course, can substitute for the sometimes exhilarating, sometimes frustrating, first-hand experience of learning about computers. But there's a place for good books, and this one is a solid effort from a solid group of writers.

The authors' experience, which ranges from academia to software design, produces a very comprehensive account of educational computing. The book begins -- too breathlessly, perhaps -- by announcing yet again that the computer revolution is here (or, as they say, "here!"). It then airs its version of how computers will affect schools through a series of anecdotes that outlines the experiences of various teachers. Since the book makes no pretense at academic journalese, the teachers are Samantha, Richard, Jean, Karen, and so on. That's not to imply that the anecdotes aren't well thought-out; it's merely to suggest that the rhetoric is a bit cozy.

The book really gets started with a survey of classroom computer applications that successfully negotiates its way between being comprehensive and being superficial. CAI is represented by examples of drill-and-practice and tutorial lessons (but unfortunately not by "intelligent CAI", where the future surely is). There are also examples of demonstrations, 'simulations, games, and of such adjunctive uses as word processing, number crunching, and data bases. Included too is a brief but clear introduction to LOGO to show the computer as a teacher of thinking. None of this, of course, can hope to make a reader anything more than vaguely aware of the range of computer applications; but that's a limitation inherent in any survey.

For some reason, the authors of many introductory texts feel a need to regaIe readers with hardware chatter. Here this results in a chapter predictably called "Bits and Bytes" (mercifully not "Bits 'n Bytes"), with much ado about CPUs, ASCII code, circuit boards, registers, RAMS, ROMs, PROMs, and the not to be forgotten EPROMs. It's easy to