

Educational Audiology Handbook (1997)

Authors: Cheryl DeConde Johnson, Peggy V. Benson,
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Cost: \$101.50

Reviewer: Cynthia Tompkins, Dalhousie University,
Halifax, Nova Scotia

The authors of *Educational Audiology Handbook* clearly express the purpose of the text in the preface. The goal of the handbook is to provide information for audiologists (or other readers) who practice within the educational system. The intention is not to provide technical audiological information which can be obtained in many other sources. Although the text is intended for use in the school setting, there are numerous sections which clinical or hospital-based audiologists could find useful in their practice. The handbook is lengthy at 519 pages, however, it is organised in a user-friendly way. It is divided into four sections: Educational Audiology Practices, Collaboration and Planning, Program Effectiveness, and Appendices. The first three sections deal with a comprehensive range of topics. The Educational Audiology Practices section gives an historical overview and current information on the practices of educational audiology, such as, identification, amplification technology, and case management. The Collaboration and Planning section describes community and family considerations including a very good chapter on inservice planning. The Program Effectiveness section outlines marketing and program development. The Appendices section comprise more than half of the handbook. Appendices include U.S. federal regulations governing education of the deaf and ASHA position statement documents related to identification and management of childhood hearing impairment. Other useful information in the Appendices includes forms for use in hearing screening, lists of assessment products and where they are available, a list of organisations serving deaf and hard-of-hearing children and parents, instruction sheets for hearing aid use and FM orientation, and many more useful resources. The Appendices section is available for separate purchase on computer disks for Macintosh and PC-Windows format. The forms can then be printed and adapted for customised use for individual programs or schools. *Educational Audiology Handbook's* strengths lie in both the content and the organisation of the material. Each chapter begins with a list of topics and ends with a summary and suggested readings. Topics in each section are highlighted with bold characters allowing for quick reference. Chapters contain text but are also rich in supplemental tables and lists. The handbook covers the areas pertinent to educational audiology but there are several sections which should interest those practising in other areas of audi-

ology. For example, chapter 5 gives a good overview of central auditory processing disorders, its identification, and remediation. Inservice is covered in a separate chapter and supplemented by sample outlines and an inservice evaluation form in the Appendices.

The *Educational Audiology Handbook* is well organised, packed with practical information, and relevant to the educational audiologist. It would make a great desk reference for educational or paediatric audiologists.

Foundations of Voice and Speech Rehabilitation Following Laryngeal Cancer (1994)

Author: Philip C. Doyle

Publisher: Singular Publishing Group, www.singpub.com

Available from: Login Brothers Canada, www.lb.com, 1-800-621-4249

Cost: \$79.75

Reviewer: Anita Silverman, Jewish General Hospital, Montreal, Quebec

Doyle expresses a dual purpose in writing this book: to provide a comprehensive and contemporary source of information on speech and voice rehabilitation following laryngeal cancer while recognising the unique role of the speech-language pathologist to facilitate effective communication and psychological well-being for each patient according to the patient's needs and abilities.

The text is well organised in a practical and logical sequence. It provides the speech-language pathologist with a sound medical foundation for understanding the method of diagnosis including cellular changes, lymphatic involvement, and clinical staging and how it impacts on the medical management of laryngeal cancer. The section detailing conservative surgical approaches to laryngeal cancer highlights the various modifications of the residual anatomical structures affecting postsurgical functional voice capacity and the need to ensure a protective airway for swallowing. This is followed by an excellent chapter on voice rehabilitation for partial laryngectomy. Doyle briefly discusses the controversy regarding neck dissection surgery and the role of chemotherapy and radiation treatment as a prophylactic or adjunctive. However, he fails to sensitise the speech-language pathologist as to how contemporary research, particularly in these areas, will impact on the future role of the speech-language pathologist.

The rest of the book deals with communication rehabilitation in its totality by emphasising the "holistic" needs of the patient and family as the patient confronts the diagnosis of cancer and the loss of traditional voice. The chapters on pre- and postoperative counselling, as

well as the last chapters devoted to long-term counselling and quality of life issues, help the novice speech-language pathologist recognise the process involved in coping with cancer as a chronic illness. Doyle stresses the multidisciplinary team approach, which establishes clear parameters for the speech-language pathologist. He reviews what, how, and when information should be presented. The discussion of the merits and timing of a laryngectomy visit is particularly sensitive.

Doyle views the speech-language pathologist as the sole professional able to combine the medical expertise and the psycho-social support to help the patient overcome his social isolation and develop alaryngeal speech. Doyle devotes a chapter to admonishing the speech-language pathologist to be objective and to inform, but not dictate the choice of alaryngeal speech to use. Unfortunately, Doyle does not address the reality that financial limitations of the patient and/or medical preference of the attending otolaryngologist often preclude speech options.

Doyle is objective in listing the advantages and disadvantages of the various alaryngeal speech options. He concludes that multiple alaryngeal speech options may address the various communicative needs of a given individual.

The chapters describing esophageal function and speech, tracheoesophageal speech, and how to use an artificial larynx are concise and thorough, explaining the various methods to facilitate voice. Step-by-step, clinical management issues for each method are clearly delineated. Each chapter provides an invaluable discussion on problem-solving strategies for the inevitable complications in teaching alaryngeal speech. The chapter on comparing performance of esophageal, artificial laryngeal, and tracheoesophageal speakers compiles objective functional comparisons of the three alaryngeal methods of communication and gives suggestions for further research.

Doyle has succeeded in writing an excellent reference book. It is recommended for both the graduate student in speech-language pathology and the novice practising speech-language pathologist. This book is also a worthwhile resource book for experienced speech-language pathologists with limited experience in dealing with laryngeal cancer voice rehabilitation.

Research Strategies in Human Communication Disorders (2nd Ed.) (1996)

Editor: Donald G. Doehring

Publisher: Pro-Ed, www.proedinc.com, 1-800-897-3202

Cost: \$29.00 (US)

Reviewer: Luc De Nil, University of Toronto, Toronto, Ontario

For many students and clinicians, merely mentioning the words "statistics" and "research methodology" is sufficient to call up images of esoteric mathematical formulae, numbers, symbols, and terminology developed specifically for the purpose of making life

miserable. Indeed, many feel that if ever there was a course in their speech-language pathology program that deserves the term "compulsory", it surely is the research methodology course. It also is probably safe to say that not just a few students and clinicians would rather read and memorise the manual that comes with their new VCR than pick up a textbook on research methodology. If you identify with any of the above descriptions, then you should take a look at this latest edition of Doehring's book, first published in 1988. It is one of a handful of introductory textbooks written specifically for students and clinicians in speech-language pathology and audiology that just may change your mind.

This book is aimed at "readers who have little or no previous experience regarding research methods, and also for those who wish to review their previous knowledge in the context of human communication disorders research" (p. vii). The various topics usually covered in introductory textbooks on research methodology are presented in a highly readable manner. Each topic is illustrated extensively with either real examples taken from research articles published in major journals in our discipline or fictitious but realistic project descriptions designed by the author to illustrate a specific point.

The material in the book is subdivided in three parts. Following a brief introductory overview of the various topics studied by researchers in human communication disorders, Part I deals with issues related to standard group designs. In it, the author intends to guide the readers through the thought process that underlies the planning, setting up, and completion of a research project involving the comparison of two or more groups of subjects or of two or more experimental tasks within the same subject group. Such designs are, by far, the ones most commonly encountered in the scientific literature in our discipline. Doehring introduces the readers to the terminology and the methodological issues related to both simple and complex group research designs. The terms "simple" and "complex", in this context, are not necessarily used as synonyms for conceptually easier and more difficult, but refer directly to the number of variables used by the researcher. In the simple design, only one independent variable is used which consists of two independent levels, represented by two independent subject groups, or of two experimental manipulations performed on the same subject group. Furthermore, the researcher is interested in measuring only one dependent variable. Complex designs refer to all other designs that involve the comparison of more than two independent groups, more than two levels in the same independent variable, or more than one dependent variable. In discussing each of these designs, Doehring takes great care to explain the various strengths and weaknesses of each of the designs for answering specific research questions and discusses general practical issues such as selection of subjects, adequate sample size, subject matching, reliability and validity, causality determination, and the extent to which results can be generalised to natural settings. As is to be expected in a text on research methods, considerable attention also is given to statistical analysis procedures. To Doehring's credit, this is done in a highly descriptive, nontechnical manner which succeeds in explaining the basic principles behind the various statistical techniques in a way that highlights their usefulness



and applicability without overburdening the reader with unnecessary detail. For the techniques most commonly used, such as descriptive statistics and analysis of variance, the author not only explains the underlying basic principles, but also provides examples of how the results typically are reported in the literature in our discipline. This is very helpful for readers whose primary interest is to become more sophisticated in reading the research literature.

In Part II of the book, Doehring discusses less traditional research techniques, such as observation, single case study, and descriptive methods, which are relatively easily implemented in clinical practice and often can provide very meaningful information which may lead to more involved group designs discussed earlier. In this section, the author also briefly discusses single subject designs, as well as a number of other, more advanced statistical techniques, such as path analysis, sequential analysis, and meta-analysis. These techniques, especially the latter, are often not addressed in introductory textbooks, but again, Doehring is able to introduce the basic concepts behind each one and allows the readers to feel more comfortable in understanding why and when a researcher would want to use these techniques, even if the details of "how" are not explained. The author also briefly addresses qualitative research. This type of research is becoming more and more important in speech-language pathology as well as other disciplines, but is often completely overlooked in books on research methodology because it does not conform to the strict criteria of experimental control demanded by more traditional techniques. In a brief chapter, readers are introduced to some of the basic qualitative data collection techniques and analysis methods. An extensive reading list is provided for those who would like to study this approach in more detail.

In a short Part III, Doehring again stresses the need to approach research in a highly systematic, well thought-out manner. In his words, one needs to approach the research project as a "strategist". He points out that each technique has its particular strengths and weaknesses in light of the specific research question a researcher would like to answer. This part of the book is followed by four appendices providing more practical information on how to read the research literature, what practical issues go into setting up and carrying out an actual research project, and how to write up the results for publication. In addition to review questions following each chapter, Doehring also has included practical exercises for a number of the more statistically oriented sections in the book. The answers to these exercises are provided in an appendix.

While I believe that the book is an excellent and quite comprehensive introduction to research methodology in our discipline, there are a few areas that are missing or where I feel the book might have benefited from a bit more detail. Clearly the focus of the book is on traditional group design methods, and much less attention is given to single-subject designs. Nevertheless, given that most readers will work in a clinical setting, rather than a dedicated research setting, single-subject designs are probably the most accessible and useful research methods for clinicians who are interested in systematic data collection. Although an extensive reading list is provided on this topic, I believe it could have been covered in a bit more detail. Another

important topic that deserves more attention in my opinion is that of ethical considerations in research. Increasingly, researchers are asked to become more accountable for their actions, and the last few years have seen important steps being taken to protect those who participate in research. Several major Canadian and international granting agencies, as well as other organisations, such as the American Speech-Language-Hearing Association, have adopted strict guidelines researchers should follow in setting up their projects. Furthermore, all research projects currently must be reviewed by an institutional ethics review board. Such boards, for instance, will look very carefully at whether prospective subjects are fully informed about the intent of the research and the procedures used and usually have adopted strict criteria about how to prepare subject consent forms. This and other important issues deserve more attention than just a brief paragraph in Appendix B. Another, and final, topic that could be expanded a bit more in a next edition, is that of oral presentations of data. For most people, formal or informal oral presentations will be their first experience in communicating research data, and the appropriate use of effective audio-visual means (e.g., posters, slides, overheads) contributes greatly to making this experience a positive one for both the presenter and the listener. Although Doehring provides a few general guidelines about making audio-visual material, this could have been expanded a bit more, maybe by including a few good examples of easy-to-read text and data slides.

Despite these few shortcomings, this is an excellent introductory book for students in communication disorders and for practising clinicians. If all you are interested in is becoming more familiar with methodological techniques and concerns in order to be able to read and interpret the literature more carefully, this book will give you that basis. If you are interested some day in contributing to the research in our discipline, this book will provide you with a good introduction and the carefully chosen list of additional readings at the end of each chapter will allow you to find the advanced reading needed to pursue your goal.

Sound-Field FM Amplification: Theory and Practical Applications (1995)

Authors: Carl C. Crandell, Joseph J. Smaldino, and Carol Flexer

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Available from: Login Brothers Inc., www.lb.com, 1-800-621-4249

Cost: \$61.75

Reviewer: Pam Millett, Auditory Management Services, Toronto, Ontario

This book takes the reader through the entire process of recommending, choosing, installing, assessing, and funding a sound-field FM amplification system for classrooms. It addresses issues from both a theoretical and a practical perspective. All the contributors to this book are well known in the field of educational audiology and many have published research studies on the use of

sound-field amplification systems in classrooms. The authors describe their intended audience as audiologists, speech-language pathologists, school administrators, teachers (both classroom and special education), parent-teacher associations, parents, civic groups, and equipment manufacturers. However, most of the material assumes a basic understanding of speech perception, hearing loss, and associated concepts. A reader with no background in audiology and/or speech-language pathology would likely find this book difficult to read.

The book is organized into two sections. Part A is a comprehensive review of research in the areas of classroom acoustics, speech perception process models, speech perception skills in children under a variety of listening conditions, and speech perception skills of children who may be at academic risk for a variety of reasons (e.g., ESL, children with minimal or unilateral hearing loss, language/learning disorders). Chapter 1 provides a general overview of the purpose of sound-field amplification, supplemented by photographs of a variety of sound-field systems which are helpful for readers with less "hands on" experience with these systems. Chapter 2 is a brief summary of models of speech perception which include top-down and bottom-up components of speech processing and the effects of attention, memory, and knowledge base on processing. Chapter 3 discusses classroom factors that affect speech perception, including teacher voice characteristics and the effects of distance, noise, and reverberation. Chapter 4 integrates information from the previous two chapters to discuss why certain populations are more at risk for difficulties in listening, understanding, and learning in the classroom. Part A (the "theory" section of the book) integrates information on how factors inherent in the normal development of speech perception skills impact listening skills in the classroom, how factors inherent in the classroom environment impact listening skills, and how factors inherent in an individual impact listening skills. This section is an excellent review for speech-language pathologists and audiologists. There are also many useful photographs, charts, diagrams, and "facts and figures" which could be used selectively to present to teachers and school administrators to demonstrate the need for and effectiveness of sound-field amplification.

Part B is entitled "Practical Applications of Sound-Field Amplification"; however, it might more accurately be titled "Management of the Classroom Listening Environment", since this section covers much more than simply installing a sound-field system. Chapters 5 and 6 outline evaluating a classroom environment with respect to acoustical characteristics (by measuring voice and noise levels and reverberation times) and improving classroom acoustics. It includes a list of resources for acoustical and measurement instrument materials. Chapters 7 and 11 (written by Carolyn Edwards, a Canadian educational audiologist), address the crucial point that simply introducing technology into a classroom is not sufficient for the development of listening and communication skills to occur. Audiologists and speech-language pathologists must consider and evaluate all aspects of the classroom environment, such as classroom style, classroom design, learning style of the students

within the classroom, and teacher variables. Sound-field FM systems must be integrated into the classroom, not simply installed. These chapters also cover strategies for increasing teacher and student awareness of sound, improving their understanding of the effects of poor acoustics, and enhancing their ability to cope effectively with poor listening conditions. Chapter 8 is a comprehensive and up-to-date review of the literature published on sound-field FM amplification which covers studies on speech recognition skills, teachers' responses, and effects on academic achievement, attention, and learning. Chapters 9 and 10 are a practical guide to selecting and installing sound-field systems. A wealth of information is presented, including choice of the number and positioning of speakers, selection of a carrier frequency, types of microphones available, inservicing teachers, and troubleshooting the system, supplemented by photographs, worksheets, and checklists. The final chapter discusses strategies for marketing and funding sound-field FM systems. Although much of the information on cost savings and funding sources is based on the U.S. educational system, most of the strategies and ideas for approaching teachers and school administrators are applicable to Canadian schools. Many of the chapters in this book conclude with a number of appendices, which include resources such as addresses and phone numbers for materials, student and classroom checklists and questionnaires, instructions for conducting a hearing loss simulation with students, and troubleshooting guides.

In my opinion, this book is the most comprehensive and up-to-date resource available for audiologists and speech-language pathologists on sound-field FM amplification. The focus of the book is the benefits of sound-field FM amplification systems in classrooms. However, the authors also recognize that the introduction of technology is only half of the equation. The understanding and recognition of the effects of poor listening environments by teachers and students, good teaching practices, and a focus on developing effective listening, language, and communication skills are also necessary for optimal classroom learning. Whether you regularly recommend, install, and evaluate sound-field systems, or would simply like to learn more about this technology, this book will be a comprehensive and practical resource.

